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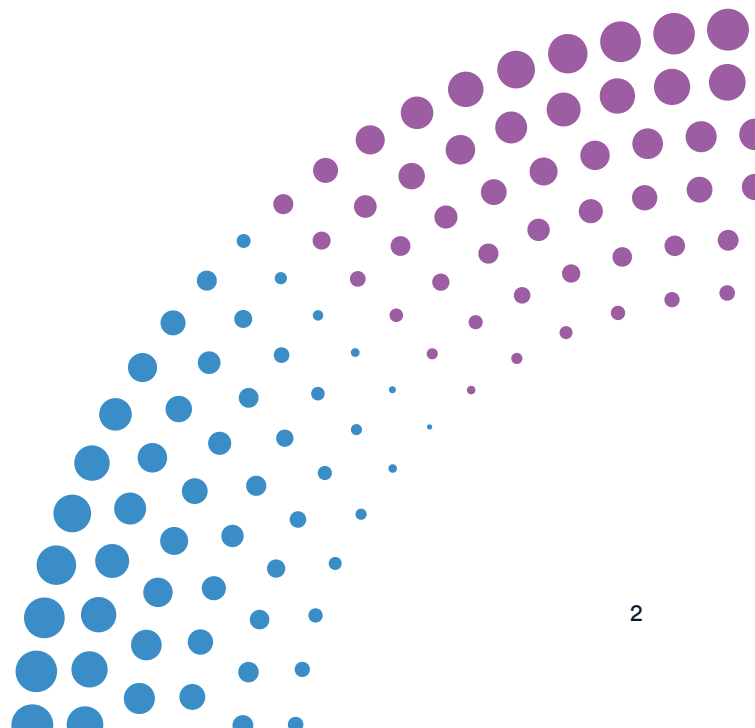Artificial Intelligence

Congressional
Boot Camp
on Artificial
Intelligence

AUGUST 8-11, 2022
Stanford University

Congressional Boot Camp on Artificial Intelligence

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# MESSAGE FROM THE CONVENERS

On behalf of the Stanford Institute for Human-Centered Artificial Intelligence (HAI), we would like to welcome you to the Stanford HAI Congressional Boot Camp on Artificial Intelligence (AI)! We are thrilled you can join us for an immersive learning and networking experience in the heart of the world's innovation hub, Silicon Valley.

We are on the cusp of The Age of Artificial Intelligence. The scope and scale of impact of the Age of AI will be more profound than any other period of transformation in our history. AI has the potential to radically transform every industry and every society. If AI is to serve the collective needs of humanity, it must incorporate an understanding of what moves us—physically, intellectually, and emotionally. It is critical that we design machine intelligence that can understand humans, and interact with nuance and in multiple dimensions.



Here in the United States, Congress plays a pivotal role in regulating AI through legislation and oversight. Congressional staff are typically the ones advising members, developing policy initiatives, and pushing legislation to the next step. We recognize that ensuring Congress has the right tools and knowledge to make thoughtful, informed decisions around technology issues is paramount. Today's policies will set the foundation of tomorrow's innovation.

But rapid advancements in AI make it challenging to keep up with a quickly evolving field. How can congressional staff keep up with the latest AI developments when top AI conferences publish more than 71,000 academic papers every year? Often, it feels like drinking water from a fire hose. That is why we specifically designed this boot camp, which separates the signal from the noise so you can walk away with an understanding of the most salient AI developments. We hope you take the lessons you learn from this boot camp back to Washington, D.C., to shape and guide legislation that will serve and benefit Americans along with the rest of humanity.

Stanford University has hosted boot camps for Congress since 2014 and is uniquely positioned to do so. Our rich history of interdisciplinary collaboration fosters a vibrant and innovative community, explaining why Stanford is host to world-renowned departments in medicine, business, law, computer science, engineering, education, and more. Stanford faculty and alumni include eight Pulitzer Prize winners, 21 astronauts, 27 MacArthur Fellows, 20 living Nobel laureates, and numerous individuals who have founded influential companies such as Alphabet/Google, LinkedIn, and Hewlett-Packard.

We would like to extend a special thank you to our colleagues Amy Zegart, Herb Lin, and Russell Wald for founding the first Stanford congressional boot camp in 2014 and starting a strong tradition of policy educational engagement at Stanford University. Additionally, thank you to our phenomenal speakers who have taken the time to share their expertise at the boot camp, and to all the congressional staffers who traveled cross-country to join us for this exceptional program. Finally, we would like to express deep gratitude and thanks to our phenomenal Stanford HAI staff—especially Haifa Badi Uz Zaman, Jeanina Casusi, Celia Clark, Joe Hinman, Tina Huang, Shana Lynch, Marisa MacAskill, Holly McCall, Stacy Peña, Christian Pinedo, John Robichaux, Russell Wald, Madeline Wright, and Daniel Zhang—for all their hard work in organizing this year's boot camp.

Over the next three days, we will explore a range of AI topics including disinformation and what it means for democracy, competition with China, the future of work, innovation in healthcare, climate change and sustainability, how to deploy AI systems in the face of widespread bias and discrimination, and other important subjects. At the end of the week, staffers will receive a Stanford University Certificate of Completion of the boot camp, signifying your successful achievement.

We strongly encourage you to participate in each session and voice your questions, concerns, and opinions as this boot camp will be the preeminent place to engage in a robust discussion about governing AI.

Sincerely,

John Etchemendy and Fei-Fei Li,
Denning Co-Directors of the Stanford Institute for Human-Centered Artificial Intelligence.



Photo courtesy of Drew Kelly

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Daniel Ho speaking at the Department of Commerce during the Stanford HAI co-hosted symposium on *Artificial Intelligence and the Economy: Charting a Path for Responsible and Inclusive AI.* Photo courtesy of Joe Fleming.



Anna Lembke speaking at the Stanford HAI 2022 spring conference on *Key Advances in Artificial Intelligence.* Photo courtesy of Christine Baker.

Condoleezza Rice, Secretary Gina Raimondo, and Deputy Secretary Don Graves at the Department of Commerce during the Stanford HAI co-hosted symposium on *Artificial Intelligence and the Economy: Charting a Path for Responsible and Inclusive AI.* Photo courtesy of Joe Fleming.



Fireside chat with Fei-Fei Li and author Neal Stephenson at the Stanford HAI 2022 spring conference on *Key Advances in Artificial Intelligence.* Photo courtesy of Christine Baker.

# BOOT CAMP AGENDA

## MONDAY, AUGUST 8, 2022

| | |
|---|---|
| 11:15am – 11:30am | **Welcome**<br>Speakers: John Robichaux, Russell Wald |
| 11:30am – 12:30pm | **Session 1: Mapping the AI Landscape**<br>Speaker: Peter Norvig |
| 12:30pm – 1:30pm | **Session 2: Mitigating Risk: Implementing Safe and Robust AI**<br>Speakers: Anthony Corso, Mykel Kochenderfer |
| 1:30pm – 1:45pm | **Break** |
| 1:45pm – 2:45pm | **Session 3: The Fuel of AI: Data (and Its Perils)**<br>Speakers: Terah Lyons, Jennifer King, James Zou |
| 2:45pm – 3:30pm | **Session 4: AI, Automation, and the Future of Work**<br>Speaker: Erik Brynjolfsson |
| 3:30pm – 3:45pm | **Break/Walk to Gates** |
| 3:45pm – 4:45pm | **Session 5: Understanding the Basics of Foundation Models**<br>Speakers: Rishi Bommasani, Percy Liang |
| 4:45pm – 5:30pm | **Keynote Fireside Chat: Cutting Edge: AI Developments That Are Steering the Future**<br>Speakers: Fei-Fei Li, James Manyika |
| 5:30pm – 7:00pm | **Dinner** |

## TUESDAY, AUGUST 9, 2022

| | |
|---|---|
| 8:30am – 9:00am | **Breakfast/Debrief**<br>Speakers: John Robichaux, Russell Wald |
| 9:00am – 10:00am | **Session 1: How AI Will Shape the Future of International Security and U.S. Intelligence**<br>Speakers: Brad Boyd, Harold Trinkunas, Amy Zegart |
| 10:00am – 10:15am | **Break** |
| 10:15am – 11:15am | **Session 2: Digital Dupes: How AI is Distorting Truth Through Disinformation and Deepfakes**<br>Speakers: Andrew Grotto, Riana Pfefferkorn |
| 11:15am – 12:15pm | **Session 3: The China Challenge: Developing Human-Centered AI with an Authoritarian Competitor**<br>Speakers: Oriana Mastro, Graham Webster, Daniel Zhang |

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| 12:15pm – 1:00pm | **Lunch** |
|---|---|
| 1:00pm – 2:00pm | **Session 4: The Possibilities and Pitfalls of AI and Climate Sustainability**<br>Speakers: Marshall Burke, Rayne Sullivan |
| 2:00pm – 4:00pm | **Hotel Break** |
| 4:00pm – 5:00pm | **Session 5: From Startups to Giants: Industry Perspectives on Innovation**<br>Speakers: Jack Clark, Vilas Dhar, Rachel Gillum, John Hennessy, Susan Liautaud |
| 5:00pm – 6:00pm | **Reception** |
| 6:00pm – 7:30pm | **Keynote Dinner: Democracy in a World of AI-Fueled Disinformation and Digital Authoritarianism**<br>Speakers: Francis Fukuyama, Daniel Ho, Condoleezza Rice |

## WEDNESDAY, AUGUST 10, 2022

| 8:30am – 9:00am | **Breakfast/Debrief**<br>Speakers: John Robichaux, Russell Wald |
|---|---|
| 9:00am – 10:00am | **Session 1: Revolutionizing the Classroom: How AI Is Advancing Education**<br>Speakers: Emma Brunskill, John Robichaux, Dan Schwartz |
| 10:00am – 11:00am | **Session 2: The New Creative Industry: How AI Is Reshaping Arts and Culture**<br>Speakers: Michele Elam, Kamal Sinclair |
| 11:00am – 11:15am | **Break** |
| 11:15am – 12:15pm | **Session 3: Transforming Healthcare Through Innovation**<br>Speakers: Alyce Adams, Matthew Lungren, Sherri Rose |
| 12:15pm – 1:30pm | **Session 4 (Lunch): Modernizing a Mammoth: Use-Cases of Public Sector AI**<br>Speaker: Daniel Ho |
| 1:30pm – 1:45pm | **Break** |
| 1:45pm – 2:45pm | **Closing Keynote Session 5: The Neuroscience of Addiction and Implications for a Digital World**<br>Speakers: Jennifer King, Anna Lembke |
| 2:45pm – 4:15pm | **Session 6: Trip to Stanford Virtual Human Interaction Lab**<br>Speaker: Jeremy Bailenson |
| 4:15pm – 4:30pm | **Walk to Gates** |
| 4:30pm – 6:30pm | **Closing Dinner**<br>Speaker: Tina Huang |

Hoover Senior Fellow H.R. McMaster pictured with the 2019 cohort of the Hoover Institution Boot Camp on Cyber & AI.



James Manyika and Eric Schmidt speaking at the Stanford Digital Economy Lab's 2022 spring workshop on *AI & the Future of Work.* Photo courtesy of Christine Baker.

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Amy Zegart speaking at the Stanford HAI 2019 fall conference on *AI, Ethics, Policy, and Governance*. Photo courtesy of Christine Baker.



Erik Brynjolfsson speaking at the Stanford Digital Economy Lab's 2022 spring workshop on *AI & the Future of Work* Photo courtesy of Christine Baker.

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# KEYNOTE SPEAKERS

## FRANCIS FUKUYAMA

Francis Fukuyama is Olivier Nomellini Senior Fellow at Stanford University's Freeman Spogli Institute for International Studies (FSI), and Director of the Susan Ford Dorsey Master's in International Policy (MIP) at Stanford. He is also a professor (by courtesy) of political science.

Fukuyama has written widely on issues in development and international politics. His 1992 book, *The End of History and the Last Man*, has appeared in over 20 foreign editions. His most recent book, *Identity: The Demand for Dignity and the Politics of Resentment*, was published in September 2018.

Fukuyama received his B.A. from Cornell University in classics, and his Ph.D. from Harvard in political science. He was a member of the political science department at the RAND Corporation, and of the policy planning staff atf the U.S. Department of State. From 1996 to 2000, he was Omer L. and Nancy Hirst Professor of Public Policy at the School of Public Policy at George Mason University, and from 2001 to 2010, he was Bernard L. Schwartz Professor of International Political Economy at the Paul H. Nitze School of Advanced International Studies, Johns Hopkins University. He served as a member of the President's Council on Bioethics from 2001 to 2004.

Fukuyama holds honorary doctorates from Connecticut College, Doane College, Doshisha University (Japan), Kansai University (Japan), and Aarhus University (Denmark), and the Pardee Rand Graduate School. He is a non-resident fellow at the Carnegie Endowment for International Peace and at the Center for Global Development. He is a member of the Board of Governors of the Pardee Rand Graduate School and the Volcker Alliance. He is a member of the American Political Science Association and the Council on Foreign Relations. He is married to Laura Holmgren and has three children.

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# DANIEL E. HO

Daniel E. Ho is the William Benjamin Scott and Luna M. Scott Professor of Law at Stanford Law School, Professor of Political Science, Senior Fellow at the Stanford Institute for Economic Policy Research, Associate Director of the Stanford Institute for Human-Centered Artificial Intelligence, and Director of the Regulation, Evaluation, and Governance Lab (RegLab).

Ho serves as an appointee to the National Artificial Intelligence Advisory Commission (NAIAC), advising the White House on artificial intelligence, and is a Public Member of the Administrative Conference of the United States (ACUS).

His scholarship centers on quantitative empirical legal studies, with a substantive focus on administrative law and regulatory policy, antidiscrimination law, and courts. With the RegLab, his work has developed high-demonstration projects of data science in public policy, through partnerships with a range of government agencies, including the Internal Revenue Service, the Environmental Protection Agency, the Santa Clara County Public Health Department, and Seattle and King County Public Health. The collaboration with Santa Clara County was awarded the Innovative Practice Gold Award for "the highest level of program innovation" to serve "community during the COVID-19 pandemic" by the National Association of County and City Health Officials.

He is also a Faculty Fellow at the Center for Advanced Study in the Behavioral Sciences, Faculty Affiliate at the Woods Institute for the Environment, and Faculty Affiliate at the Wilson Sheehan Lab for Economic Opportunities.

He received his J.D. from Yale Law School and his Ph.D. in political science from Harvard University, and clerked for Judge Stephen F. Williams on the U.S. Court of Appeals, District of Columbia Circuit. His research has appeared in a wide range of journals such as the *Stanford Law Review*, the *Yale Law Journal*, the *N.Y.U. Law Review*, *PNAS*, *BMJ*, *Nature Medicine*, *JAMA Health Forum*, the *American Journal of Public Health*, *Nature Sustainability*, the *Journal of the American Statistical Association*, the *American Statistician*, ACM FAccT, the *Journal of Law, Economics, and Organization*, the *American Economic Journal: Economic Policy*, the *American Law and Economics Review*, *Quarterly Journal of Political Science*, *Political Analysis*, the *Journal of Legal Studies*, and the *Journal of Empirical Legal Studies*. He has also written for popular outlets, such as the *New York Times*, the *Boston Review*, and *The Hill*, and his work has been featured in many news outlets, including the *New York Times*, the *Wall Street Journal*, *Forbes*, *Atlantic*, *Slate*, and *Scientific American*.

Ho is the recipient of numerous awards, including the John Bingham Hurlbut Award for Excellence in Teaching at Stanford Law School (2010), the Carole Hafner Award for the best paper at the International Conference on Artificial Intelligence and Law (2021), the Best Empirical Paper Prize from the *American Law and Economics Review*, the Warren Miller prize for the best paper published in *Political Analysis* (2008), and the Pi Sigma Alpha award for the best paper delivered at the Midwest Political Science Association meeting (2004).

# ANNA LEMBKE

Anna Lembke received her undergraduate degree in humanities from Yale University and her medical degree from Stanford University. She is currently professor and medical director of addiction medicine, Stanford University School of Medicine. She is also program director of the Stanford Addiction Medicine Fellowship, and chief of the Stanford Addiction Medicine Dual Diagnosis Clinic. She is a diplomate of the American Board of Psychiatry and Neurology, and a diplomate of the American Board of Addiction Medicine.

Lembke was one of the first in the medical community to sound the alarm regarding opioid overprescribing and the opioid epidemic. In 2016, she published her best-selling book on the prescription drug epidemic, "Drug Dealer, MD – How Doctors Were Duped, Patients Got Hooked, and Why It's So Hard to Stop" (Johns Hopkins University Press, 2016). Her book was highlighted in the New York Times as one of the top five books to read to understand the opioid epidemic (Zuger, 2018).

"Drug Dealer, MD" combines case studies with public policy, cultural anthropology, and neuroscience, to explore the complex relationship between doctors and patients around prescribing controlled drugs. It has had an impact on policy makers and legislators across the nation. Dr. Lembke has testified before Congress and consulted with governors and senators from Kentucky to Missouri to Nevada. She has been a featured guest on Fresh Air with Terry Gross, MSNBC with Chris Hayes, and numerous other media broadcasts.

Using her public platform and her faculty position at Stanford University School of Medicine, Dr. Lembke has developed multiple teaching programs on addiction and safe prescribing, as well as opioid tapering. She has held multiple leadership and mentorship positions and received the Stanford's Chairman's Award for Clinical Innovation, and the Stanford Departmental Award for Outstanding Teaching. Dr. Lembke continues to educate policymakers and the public about causes of and solutions for the problem of addiction.

Her latest book, "Dopamine Nation: Finding Balance in the Age of Indulgence" (Dutton/Penguin Random House, August 2021), was an instant New York Times and Los Angeles Times bestseller, and explores how to moderate compulsive overconsumption in a dopamine-overloaded world.

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## FEI-FEI LI

Fei-Fei Li is the inaugural Sequoia Professor in the Computer Science Department at Stanford University, and the Denning Co-Director of the Stanford Institute of Human-Centered Artificial Intelligence (HAI). She served as the Director of Stanford's AI Lab from 2013 to 2018. And during her sabbatical from Stanford from January 2017 to September 2018, she was vice president at Google and served as chief scientist of AI/ML at Google Cloud. Li obtained her B.A. in physics from Princeton in 1999 with high honors, and her PhD in electrical engineering from the California Institute of Technology (Caltech) in 2005. She joined Stanford in 2009 as an assistant professor. Prior to that, she was on faculty at Princeton University (2007-2009) and the University of Illinois Urbana-Champaign (2005-2006).

Li's current research interests include cognitively inspired AI, machine learning, deep learning, computer vision, and AI+healthcare, especially ambient intelligent systems for healthcare delivery. In the past, she has also worked on cognitive and computational neuroscience. Li has published more than 200 scientific articles in top-tier journals and conferences, including *Nature*, PNAS, *Journal of Neuroscience*, CVPR, ICCV, NIPS, ECCV, ICRA, IROS, RSS, IJCV, IEEE-PAMI, *New England Journal of Medicine*, *Nature Digital Medicine*, etc. Li is the inventor of ImageNet and the ImageNet Challenge, a critical large-scale dataset and benchmarking effort that has contributed to the latest developments in deep learning and AI. In addition to her technical contributions, she is a national leading voice for advocating diversity in STEM and AI. She is co-founder and chairperson of the national nonprofit AI4ALL, which is dedicated to increasing inclusion and diversity in AI education.

Li is an elected member of the National Academy of Engineering (NAE), the National Academy of Medicine (NAM) and the American Academy of Arts and Sciences (AAAS). She is also a Fellow of ACM, a member of the Council on Foreign Relations (CFR), a recipient of the 2019 IEEE PAMI Longuet-Higgins Prize, 2019 National Geographic Society Further Award, 2017 Athena Award for Academic Leadership, IAPR 2016 J.K. Aggarwal Prize, the 2016 IEEE PAMI Mark Everingham Award, the 2016 NVIDIA Pioneer in AI Award, 2014 IBM Faculty Fellow Award, 2011 Alfred Sloan Faculty Award, 2012 Yahoo Labs FREP award, 2009 NSF CAREER award, the 2006 Microsoft Research New Faculty Fellowship, among others. Li has been a keynote speaker at many academic or influential conferences, including the World Economics Forum (Davos), the Grace Hopper Conference 2017 and the TED2015 main conference. Work from Li's lab has been featured in a variety of magazines and newspapers, including the *New York Times*, *Wall Street Journal*, *Fortune* magazine, *Science*, *Wired* magazine, *MIT Technology Review*, *Financial Times*, and more. She was selected as a 2017 Women in Tech by Elle magazine, a 2017 Awesome Women Award by *Good Housekeeping*, a Global Thinker of 2015 by *Foreign Policy*, and one of the "Great Immigrants: The Pride of America" in 2016 by the Carnegie Foundation (past winners include Albert Einstein, Yoyo Ma, and Sergey Brin).

# JAMES MANYIKA

James Manyika is a senior vice president at Google and the Vice Chair of the Department of Commerce's National Artificial Intelligence Advisory Committee. He focuses on technology and society, including topics ranging from AI to the future of work and the digital economy, computing infrastructure, sustainability, and other areas that have the potential for broad impact on society.

Prior to Google, he spent over 25 years at McKinsey & Company, including serving on its board, and is now senior partner emeritus and chair emeritus of the McKinsey Global Institute (MGI). Based in Silicon Valley, Manyika advised the chief executives of many of the world's leading tech companies. He led MGI for 13 years, including leading research on AI and other technologies' impact on business, the economy, and society, as well as on other global trends. Manyika was appointed by President Obama to serve as vice chair of the Global Development Council at the White House, and by two U.S. Commerce Secretaries to the Digital Economy Board and the National Innovation Board. He serves on the boards of the Council on Foreign Relations and the Hewlett and MacArthur foundations. He is a visiting professor at Oxford's Blavatnik School of Government and a member of the National Academies of Science, Engineering and Medicine's Committee on Responsible Computing. Manyika serves on the board of the Broad Institute of MIT and Harvard, and on advisory boards of research institutes at Stanford, Harvard, Oxford, and Toronto.

He has been elected a fellow of the American Academy of Arts and Sciences, a Distinguished Fellow of Stanford's Institute for Human-Centered AI, a Distinguished Fellow in Ethics & AI at Oxford, a fellow of DeepMind, a visiting fellow of All Souls College, and a fellow of Balliol College, Oxford. A Rhodes scholar, Manyika has a Ph.D., M.S., and M.A. from Oxford in AI and robotics, mathematics, and computer science, and a B.S. in electrical engineering from the University of Zimbabwe.

# CONDOLEEZZA RICE

Condoleezza Rice is the Rad and Dianne Taube Director of the Hoover Institution, the Thomas and Barbara Stephenson Senior Fellow on Public Policy, and sits on the Stanford HAI Advisory Council. In addition, she is a founding partner of Rice, Hadley, Gates & Manuel, an international strategic consulting firm.

From January 2005 to January 2009, Rice served as the 66th Secretary of State of the United States, the second woman and first Black woman to hold the post. Rice also served as President George W. Bush's Assistant to the President for National Security Affairs (National Security Advisor) from January 2001 to January 2005, the first woman to hold the position.

Rice served as Stanford University's provost from 1993 to 1999, during which time she was the institution's chief budget and academic officer. As provost, she was responsible for a $1.5 billion annual budget and an academic program involving 1,400 faculty members and 14,000 students. In 1997, she also served on the Federal Advisory Committee on Gender-Integrated Training in the Military.

From February 1989 through March 1991, Rice served on President George H.W. Bush's National Security Council staff. She served as Director, then Senior Director, of Soviet and East European Affairs, as well as Special Assistant to the President for National Security Affairs. In 1986, while an International Affairs Fellow of the Council on Foreign Relations, Rice also served as Special Assistant to the Director of the Joint Chiefs of Staff.

Percy Liang speaking on foundation models at the Stanford HAI 2022 spring conference on *Key Advances in Artificial Intelligence*. Photo courtesy of Christine Baker.



Emma Brunskill speaking at the Stanford HAI launch in 2019.

Fei-Fei Li and John Etchemendy speaking to Senator Rob Portman.



Representative Anna Eshoo speaking at an *AI Across America* event co-hosted by Stanford HAI and SeedAI.

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# SESSION DESCRIPTIONS:

## DAY 1: MONDAY, AUGUST 8, 2022

**11:15am –11:30am**     **Welcome Session and Lunch**
This session will welcome staffers to Stanford's campus and provide an overview of why this boot camp was created and what Stanford HAI hopes for participants to gain.

**Speakers:**

**John Robichaux**,
Director of Education,
Stanford HAI

John Robichaux is an award-winning executive and educator with 25-plus years of expertise in advising, building, and growing high-impact organizations within the public, corporate, and philanthropic sectors. Robichaux has also served in senior leadership positions at Harvard and Columbia, and elsewhere at Stanford, as well as a consultant and adviser to 200-plis organizations worldwide in the areas of strategic and executive leadership, organizational and policy design, change leadership, and social impact. Robichaux also founded and co-directed a large international NGO and nonprofit.

Within higher education, Robichaux is widely recognized as the only active administrator to have held leadership positions at three "Ivy Plus" universities in six key areas of university leadership. In 2017, NAASS recognized Robichaux's innovation and impact on higher education leadership, describing "The Robichaux Method" as "15 ideas that changed everything" in those fields. He regularly consults for global organizations with a special emphasis on training executives, strategic planning efforts, and change management.

**Russell Wald**,
Director of Policy,
Stanford HAI

Russell Wald leads the policy team at Stanford HAI that advances the organization's engagement with U.S. and international governments and civil society organizations. In this leadership capacity, Wald sets the strategic vision for policy research, education, and outreach at HAI, and directs a dynamic team to equip policymakers with the knowledge and resources to take informed and meaningful actions on advancing AI with ethical and human-centered values.

He is the co-author of various publications on AI including, *Building a National AI Research Resource (2021)*, *Enhancing International Cooperation in AI Research: The Case for a Multilateral AI Research Institute (2022)*, *The Centrality of Data and Compute for AI Innovation: A Blueprint for a National Research Cloud* (forthcoming: Notre Dame Journal of Emerging Technologies).

He has held various policy program and government relations positions at Stanford University for nearly a decade. In 2014, he co-led the inaugural Stanford congressional boot camp, establishing a strong and effective tradition of educating policymakers at Stanford and enhancing the collaboration between governments and academic institutions.

**11:30am –12:30pm**     **Session 1: Mapping the AI Landscape**
This session will cover the basic concepts of AI, including compute power, neural networks, narrow vs. general AI, gradient descent, and more. It will also provide a bird's-eye view of the AI landscape, covering different AI techniques such as deep learning, computer vision, natural language processing, and supervised and unsupervised learning. Participants will walk away with a greater understanding of the primary aspects of AI and be better prepared for the boot camp.

**Speaker:**

**Peter Norvig**, Distinguished Education Fellow, Stanford HAI; Director of Research, Google

Peter Norvig previously directed Google's core search algorithms group and Google's research group. He was head of NASA Ames's Computational Sciences Division, where he was NASA's senior computer scientist and a recipient of NASA's Exceptional Achievement Award in 2001. He has taught at the University of Southern California, Stanford University, and the University of California at Berkeley, from which he received a Ph.D. in 1986 and the distinguished alumni award in 2006. He was co-teacher of an artificial intelligence class that signed up 160,000 students, helping to kick off the current round of massive open online classes. His publications include the books *Data Science in Context, Artificial Intelligence: A Modern Approach* (the leading textbook in the field), *Paradigms of AI Programming: Case Studies in Common Lisp*, *Verbmobil: A Translation System for Face-to-Face Dialog*, and *Intelligent Help Systems for UNIX*.

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**12:30pm – 1:30pm**      **Session 2: Mitigating Risk: Implementing Safe and Robust AI**
The consequences of deploying robust AI and decision-making technologies in safety-critical systems such as driverless vehicles and autonomous aircraft are enormous. Challenges for AI developers range from biased inputs, constantly evolving conditions, and explainability issues, among others. This session will discuss the obstacles developers face as well as the difficult—and often politically fraught—decisions they make around operational efficiency and how they define acceptable risk parameters.

**Speakers:**

**Anthony Corso**,
Executive Director, Stanford Center for AI Safety; Aeronautics and Astronautics Postdoctoral Researcher, Stanford University

Anthony Corso is a postdoctoral researcher in the aeronautics and astronautics department at Stanford University, where he is advised by Professor Mykel Kochenderfer in the Stanford Intelligent Systems Laboratory (SISL). He is the executive director of the Stanford Center for AI Safety and the associate director of research for the SAIL-Toyota Center. His current research is on developing verifiably robust autonomy for aviation applications as part of the NASA University Leadership Initiative. His dissertation work studied approaches for the validation of safety-critical autonomous systems with an emphasis on interpretability and scalability. His research interests also include reinforcement learning, optimization, transfer learning, fluid and plasma simulation. In 2014 he received a B.S. in physics from Harvey Mudd College with an emphasis on computational methods, and in 2016 he received his master's in aeronautics and astronautics from Stanford. He is a recipient of the Stanford Graduate Fellowship and the Nicholas J. Hoff Award for outstanding performance as a master's student.

**Mykel Kochenderfer**,
Associate Professor of Aeronautics and Astronautics and, by courtesy, of Computer Science, Stanford University; Faculty Affiliate, Stanford HAI

Mykel Kochenderfer previously worked at the MIT Lincoln Laboratory where he focused on airspace modeling and aircraft collision avoidance, with his early work leading to the establishment of the ACAS X program. He received a Ph.D. from the University of Edinburgh and B.S. and M.S. degrees in computer science from Stanford University. Kochenderfer is the director of the Stanford Intelligent Systems Laboratory (SISL), conducting research on advanced algorithms and analytical methods for the design of robust decision-making systems. Of particular interest are systems for air traffic control, unmanned aircraft, and other aerospace applications where decisions must be made in uncertain, dynamic environments while maintaining safety and efficiency. Research at SISL focuses on efficient computational methods for deriving optimal decision strategies from high-dimensional, probabilistic problem representations.

**1:30pm – 1:45pm**      **Break**

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**1:45pm – 2:45pm**

**Session 3: The Fuel of AI: Data (and Its Perils)**

Contemporary AI technologies run on data, but AI developers face significant obstacles in acquiring and cleaning data. In addition, developers must do their best to ensure data's inherent biases (and their non-obvious proxies) are accounted for in their AI systems. Moreover, different social values around privacy, data ownership, and data creation impact what AI technologies are possible. This session will dive into how the data policies developed today will shape the technologies of tomorrow.

**Speakers:**

**Terah Lyons** (moderator), Executive In Residence, Zetta Venture Partners; Member of the AI Index Steering Committee and Affiliated Fellow, Stanford HAI

Terah Lyons was the Founding Executive Director of the Partnership on AI, a multi-stakeholder non-profit initiative focused on advancing the benefits and addressing the challenges of artificial intelligence co-founded by a coalition of technology companies, civil society organizations, and academic experts in 2016.

Previously, Terah was a Policy Advisor to the U.S. Chief Technology Officer in the White House Office of Science and Technology Policy (OSTP) during the Obama Administration. In her capacity at the White House, Terah led a policy portfolio focused on machine intelligence, including AI, robotics, and intelligent transportation systems. In her work at OSTP, she helped establish and direct the White House Future of Artificial Intelligence Initiative, which framed a U.S. Government-wide domestic policy strategy on AI.

Terah currently sits on the Study Panel for Stanford's One Hundred Year Study on Artificial Intelligence (AI100), and on the Steering Committee of the AI Index hosted at Stanford's Human-Centered AI Institute.

**Jennifer King**, Privacy and Data Policy Fellow, Stanford HAI

Jennifer King, an information scientist by training, is a recognized expert and scholar in information privacy. Sitting at the intersection of human-computer interaction, law, and the social sciences, her research examines the public's understanding and expectations of online privacy as well as the policy implications of emerging technologies. Most recently, her research explored alternatives to notice and consent (with the World Economic Forum), the impact of California's new privacy laws, and dark patterns. Her past work includes projects focusing on social media, genetic privacy, mobile application platforms, the Internet of Things (IoT), and digital surveillance. Her scholarship has been recognized for its impact on policymaking by the Future of Privacy Forum, and she has been an invited speaker before the Federal Trade Commission at several commission workshops. King completed both her PhD and master's degree in information management and systems at the University of California, Berkeley School of Information.

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**1:45pm – 2:45pm**     **Session 3,  continued**

**Speakers:**

**James Zou**, Assistant Professor of Biomedical Data Science, Stanford University; Faculty Affiliate, Stanford HAI

James Zou is also a Chan-Zuckerberg investigator, and the faculty director of Stanford AI for Health. As a technologist, Zou develops novel machine learning algorithms that have strong statistical guarantees and are motivated by human health challenges. Several of his methods are widely used in industry—including in tech, biotech, insurance, and more. He also works on questions important for the broader impacts of AI—fairness, accountability, interpretations, robustness, and the economic impacts of data and AI to firms and industry.

**2:45pm – 3:30pm**     **Session 4: AI, Automation, and the Future of Work**
AI and automation will have a rippling effect on today's workforce and the future of work. Mainstream narratives forecast AI will displace workers and funnel profits up to a select few. Alternatively, AI has the potential to augment and supercharge labor, ensuring the benefits of AI are spread and enjoyed widely. This session dives into deeper detail regarding what exactly we should expect as AI and automation integrate into the economy and the subsequent consequences for the workforce. The panelists will also discuss how policies can reshape and guide what the future holds.

**Speaker:**

**Erik Brynjolfsson**, Director, Stanford Digital Economy Lab; Jerry Yang and Akiko Yamazaki Professor and Senior Fellow, Stanford HAI; Ralph Landau Senior Fellow, Stanford Institute for Economic Policy Research

Erik Brynjolfsson is the Jerry Yang and Akiko Yamazaki Professor and Senior Fellow at the Stanford Institute for Human-Centered AI, and Director of the Stanford Digital Economy Lab. He is the Ralph Landau Senior Fellow at the Stanford Institute for Economic Policy Research (SIEPR) and holds appointments at the Stanford Graduate School of Business and Stanford Department of Economics and as a Research Associate at the National Bureau of Economic Research (NBER).

One of the most-cited authors on the economics of information, Brynjolfsson was among the first researchers to measure productivity contributions of IT and the complementary role of organizational capital and other intangibles. He has done pioneering research on digital commerce, the Long Tail, bundling and pricing models, intangible assets, and the effects of IT on business strategy, productivity, and performance.

**3:30pm – 3:45pm**　　　**Break/Walk to Gates**

**3:45pm – 4:45pm**　　　**Session 5: Understanding the Basics of Foundation Models**

Recently, a new successful paradigm for building AI systems has emerged: train one model on a huge amount of data and adapt it to numerous applications. We have deemed such a model a *foundation model*. This session unpacks how foundation models were created and deployed, the requirements to build one, expected and unexpected consequences of these models, and other hot topics surrounding the use of large AI models.

**Speakers:**

**Rishi Bommasani**,
Computer Science PhD
Candidate, Stanford
University

Rishi Bommasani is a second-year Ph.D. student in the department of computer science at Stanford University advised by Percy Liang and Dan Jurafsky. Bommasani helped build and currently helps organize the Stanford Center for Research on Foundation Models (CRFM). He is also affiliated with Stanford NLP and Stanford AI. Bommasani's graduate studies are funded by the National Science Foundation Graduate Research Fellowship Program (NSF GRFP).

Bommasani earned a B.A. in mathematics and computer science and an M.S. in computer science from Cornell University, where he was advised by Claire Cardie.

His research focuses on understanding AI systems and their societal impact, as well as using NLP to further scientific inquiry.

**Percy Liang**,
Associate Professor of
Computer Science, Stanford
University; Director, Stanford
Center for Research on
Foundation Models; Faculty
Affiliate, Stanford HAI

Percy Liang is an associate professor of computer science at Stanford University (B.S. from MIT, 2004; Ph.D. from UC Berkeley, 2011). He is also the director of the Center for Research on Foundation Models at Stanford. His two research goals are to make machine learning more robust, fair, and interpretable; and to make computers easier to communicate with through natural language. His awards include the Presidential Early Career Award for Scientists and Engineers (2019), IJCAI Computers and Thought Award (2016), an NSF CAREER Award (2016), a Sloan Research Fellowship (2015), and a Microsoft Research Faculty Fellowship (2014).

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**4:45pm – 5:30pm** **Keynote Fireside Chat: Cutting Edge: AI Developments That Are Steering the Future**
The rapid advancements in AI in recent years have shocked the world. From models generating realistic images from scratch to ambient technologies that enhance the human condition, the possibilities of what AI can do for humanity are endless. Understanding today's cutting-edge AI will help steer tomorrow's innovation. This session will dive into what is on the horizon of AI advancements and how these technologies can be leveraged to benefit society.

**Speakers:**

**Fei-Fei Li**,
Sequoia Professor of Computer Science, Stanford University; Denning Co-Director, Stanford HAI
*See biography on page 14.*

**James Manyika**,
Vice Chair, National Artificial Intelligence Advisory Committee; Senior Vice President of Technology and Society, Google; Advisory Council Member and Distinguished Fellow, Stanford HAI
*See biography on page 15.*

**5:30pm – 7:00pm** **Dinner**

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## DAY 2: TUESDAY, AUGUST 9, 2022

**8:30am – 9:00am**   **Breakfast/Debrief**
Stanford HAI staff will lead a discussion debriefing the key concepts that staffers learned in earlier sessions. They will also offer a preview of Day 2 and leave ample time for questions.

**Speakers:**

**John Robichaux**,
Director of Education,
Stanford HAI
*See biography on page 19.*

**Russell Wald**,
Director of Policy,
Stanford HAI
*See biography on page 19.*

**9:00am – 10:00am**   **Session 1: How AI Will Shape the Future of International Security and U.S. Intelligence**
Spying has never been more ubiquitous—or less understood. This crisis in intelligence education is fueling conspiracy theories and hurting intelligence policy. At the same time, AI is introducing new opportunities to strengthen U.S. intelligence capabilities, but only if decision makers understand how the U.S. intelligence community and AI technologies *actually* work. This session will separate fact from fiction as panelists discuss the past, present, and future of American espionage and how AI is creating an adapt-or-fail moment for U.S. intelligence agencies.

**Speakers:**

**Brad Boyd** (moderator), Visiting Fellow, Hoover Institution

Brad Boyd's research interests focus on the integration of emerging technology into warfare and national security. Boyd is particularly interested in the rise of automation and autonomy in military systems, to include decision making, planning, information operations, enterprise operations, and weaponry. Boyd also looks at the way U.S., Chinese, and Russian military integration of emerging technology affects military, economic, and social stability.

Prior to joining Hoover, Boyd served as a defense and foreign policy adviser to Sen. Angus King and as Senator King's representative to the Cyberspace Solarium Commission. Boyd also served as the director of AI-enabled warfighting capability development at the U.S. Department of Defense's Joint Artificial Intelligence Center and as the director of Gen. Mark A. Milley's coordination group.

Boyd was a senior military fellow at Stanford's Center for International Security and Cooperation and a Seminar XXI Fellow at the Massachusetts Institute of Technology.

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**9:00am – 10:00am     Session 1, continued**

**Speakers:**

**Harold Trinkunas**, Deputy Director and Senior Research Scholar, Stanford Center for International Security and Cooperation

Harold Trinkunas previously served as the Charles W. Robinson Chair and senior fellow and director of the Latin America Initiative in the Foreign Policy program at the Brookings Institution. His research focuses on issues related to foreign policy, governance, and security, particularly in Latin America. Trinkunas has written on emerging powers and the international order, ungoverned spaces, terrorism financing, borders, and information operations.

Trinkunas also served as an associate professor and chair of the department of national security affairs at the Naval Postgraduate School in Monterey, California. He received his doctorate in political science from Stanford University in 1999. He was born in Maracaibo, Venezuela.

**Amy Zegart**, Morris Arnold and Nona Jean Cox Senior Fellow, Hoover Institution; Senior Fellow, Stanford Freeman Spogli Institute for International Studies; Chair, Steering Committee on International Security, Stanford HAI

Amy Zegart specializes in U.S. intelligence, emerging technologies and national security, grand strategy, and global political risk management.

Zegart has been featured by the *National Journal* as one of the 10 most influential experts in intelligence reform. Most recently, she served as a commissioner on the 2020 CSIS Technology and Intelligence Task Force and has advised the National Security Commission on Artificial Intelligence. She served on the Clinton administration's National Security Council staff and as a foreign policy adviser to the Bush 2000 presidential campaign. She has testified before the Senate Select Committee on Intelligence and advised senior officials on intelligence, homeland security, and cybersecurity matters.

**10:00am – 10:15am       Break**

**10:15am – 11:15am**

**Session 2: Digital Dupes: How AI Is Distorting Information Through Disinformation and Deepfakes**

The rapid spread of disinformation has challenged societies and deepened mistrust, threatening to erode democratic values. Furthermore, synthetic media from the advent of generative adversarial networks (GANS) has created deceptively realistic images and videos—known as deepfakes—that are indistinguishable from reality. These developments are leading to an information crisis where consumers are becoming less certain of the veracity of the content they encounter. This session will dive into how AI has changed the information economy and how policy can help protect people from fake content.

**Speakers:**

**Andrew Grotto**,
Director, Program on Geopolitics, Technology, and Governance, Stanford Center for International Security and Cooperation; William J. Perry International Security Fellow, Stanford Cyber Policy Center; Research Fellow, Hoover Institution

Andrew Grotto's research interests center on the national security and international economic dimensions of America's global leadership in information technology innovation, and its growing reliance on this innovation for its economic and social life. He is particularly interested in the allocation of responsibility between the government and the private sector for defending against cyber threats, especially as it pertains to critical infrastructure; cyber-enabled information operations as both a threat to and a tool of statecraft for liberal democracies; opportunities and constraints facing offensive cyber operations as a tool of statecraft, especially those relating to norms of sovereignty in a digitally connected world; and governance of global trade in information technologies.

Before coming to Stanford, Grotto was the senior director for cybersecurity policy at the White House in both the Obama and Trump administrations.

**Riana Pfefferkorn**,
Research Scholar, Stanford Internet Observatory

Riana Pfefferkorn investigates the U.S. and other governments' policies and practices for forcing decryption and/or influencing the security design of online platforms and services, devices, and products, both via technical means and through the courts and legislatures. Riana also studies novel forms of electronic surveillance and data access by U.S. law enforcement and their impact on civil liberties.

Previously, Pfefferkorn was the associate director of surveillance and cybersecurity at the Stanford Center for Internet and Society, where she remains an affiliate. Prior to joining Stanford, she was an associate in the internet strategy & litigation group at the law firm of Wilson Sonsini Goodrich & Rosati, and a law clerk to the Hon. Bruce J. McGiverin of the U.S. District Court for the District of Puerto Rico.

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**Session 3: The China Challenge: Developing Human-Centered AI with an Authoritarian Competitor**

China remains one of the most complex geopolitical challenges for the United States. The Chinese government has made clear its intention to be the leader in AI and other key dual-use technologies to secure an economic, political, and military advantage. Furthermore, the Chinese Communist Party uses AI technology to commit human rights abuses at home and abroad in a fundamentally anti-democratic manner. How can the U.S. maintain human-centered values in its technology and remain a global leader that advances an international order using technology for society's benefit? This session will dive deeply into the nuances of Sino-American relations and how the U.S. can maintain its technological superiority.

**Speakers:**

**Oriana Skylar Mastro**, Center Fellow, Stanford Freeman Spogli Institute for International Studies

Oriana Skylar Mastro's research focuses on Chinese military and security policy, Asia-Pacific security issues, war termination, nuclear dynamics, and coercive diplomacy. She is a non-resident senior fellow at the American Enterprise Institute and continues to serve in the U.S. Air Force Reserve, for which she works as a strategic planner at INDOPACOM.

She has received numerous awards for her military service and contributions to U.S. strategy in Asia, including the 2020 and 2018 Meritorious Service Medal, the 2017 Air Force Recognition Ribbon, and the 2016 Individual Reservist of the Year Award. She has won a number of other prestigious awards, including the 2016-2017 Stanton Nuclear Security Fellowship at the Council of Foreign Relations.

**Graham Webster**, Research Scholar and Editor-in-Chief, DigiChina, Stanford Cyber Policy Center

Graham Webster is a China digital economy fellow at New America. Based at Stanford, he leads an inter-organization network of specialists to produce analysis and translation on China's digital policy developments. He researches, publishes, and speaks to diverse audiences on the intersection of U.S.-China relations and advanced technology.

From 2012 to 2017, Webster worked for Yale Law School as a senior fellow and lecturer responsible for the Paul Tsai China Center's Track 2 dialogues between the United States and China, co-teaching seminars on contemporary China and Chinese law and policy, leading programming on cyberspace in U.S.-China relations, and writing extensively on the South China Sea and the law of the sea. He has worked as a consultant to Privacy International, the National Bureau of Asian Research, the Clinton Global Initiative, and the Natural Resources Defense Council's China Program.

**11:15am – 12:15pm     Session 3, continued**

**Speakers:**



**Daniel Zhang** (moderator), Policy Research Manager, Stanford HAI

Daniel Zhang develops and oversees HAI's policy research programs, including policy briefs, white papers, workshops, and responses to government requests for information. Previously, he was the manager of the AI Index program, where he led the development and research for its annual report that measures and evaluates the rapid rate of AI advancement.

Before Stanford, he worked on global AI talent flows and security risks at the Center for Security and Emerging Technology and public education policy at the Riley Institute Center for Education and Leadership. Zhang holds an M.A. in security studies from Georgetown University, where he concentrated on technology policy, and a B.A. in politics & international affairs from Furman University.

**12:15pm – 1:00pm          Lunch**

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**1:00pm – 2:00pm**   **Session 4: The Possibilities and Pitfalls of AI and Climate Sustainability**
The risks and threats stemming from global climate change are becoming a growing issue for policymakers. At the same time, the rapid advancements of AI have presented possible opportunities to use this technology to help tackle our greatest climate challenges, from achieving net-zero emissions to preparing for extreme weather events. Conversely, AI continues to increasingly rely on compute power, which is an energy-intensive resource and contributes to the emission of $CO_2$. As a result, there is mounting concern around AI's environmental impact, drawing attention to the cost-benefit analysis of AI advancements. This session will unpack how AI can be used to help confront climate change while also better understanding AI's own ripple effects in the environment.

**Speakers:**

**Marshall Burke**, Associate Professor of Earth System Science, Stanford University; Deputy Director, Stanford Center on Food Security and the Environment; Senior Fellow, Stanford Freeman Spogli Institute for International Studies

Marshall Burke's research focuses on social and economic impacts of environmental change, and on measuring and understanding economic livelihoods across the developing world. His work regularly appears in both economics and scientific journals, including recent publications in *Nature*, *Science*, the *Quarterly Journal of Economics*, and *The Lancet*. He holds a PhD in Agricultural and Resource Economics from UC Berkeley, and a BA in International Relations from Stanford. He is also co-founder of AtlasAI, a start-up using satellites and machine learning to measure livelihoods.

**Rayne Sullivan**, Graduate Fellow, Stanford HAI

Rayne Sullivan's work focuses on climate change, tech law, Indigenous innovation, and youth advocacy, as well as nature-based solutions and social entrepreneurship in island communities. At PreCOP26, Sullivan represented the United States at the UN's inaugural Youth4ClimateSummit in Milan.

Sullivan serves as an executive adviser at the Oxford Artificial Intelligence Society (OxAI). At OxAI, he co-developed the initiative on diversity and inclusion, and managed industry relationships with Alphabet's X, QuantumBlack, and other leading firms. Through his research, he analyzed socially responsible AI development as a member of the Rhodes Artificial Intelligence Lab and conducted field research on national innovation strategies in Southeast Asia. Additionally, Sullivan co-founded Georgetown Diplomatic Strategies, a diplomacy nonprofit that engaged with over a dozen embassies and launched a program to increase gender equality in foreign policy.

**2:00pm – 4:00pm**   **Hotel Break**

**4:00pm – 5:00pm**

**Session 5: From Startups to Giants: Industry Perspectives on Innovation**
Silicon Valley, which is home to venture capital, startups, and leading tech firms, is a global center of tech innovation. From the startup lab to the boardrooms of major companies, this session will bring together startup founders and tech executives to map out Silicon Valley's innovation ecosystem, discuss its vibrancy, and critically think about the consequences of AI developments on society. Panelists will offer their perspectives on starting, funding, and running successful companies as well as providing counsel to companies on ensuring ethical business practices.

**Speakers:**

**Jack Clark**, Co-Founder, Anthropic; Co-Chair of the AI Index Steering Committee, Stanford HAI

Jack Clark is also co-chair of the OECD's working group on AI and Compute and a non-resident research fellow at the Center for Security and Emerging Technology (CSET). In his spare time, Clark writes Import AI, a newsletter about AI and AI policy read by more than 25,000 people around the world. Clark was formerly the policy director of OpenAI, an AI research company.

**Vilas Dhar** (moderator), President and Trustee, Patrick J. McGovern Foundation; Advisory Council Member, Stanford HAI

Vilas Dhar's career has included work as board director and lead investor in several high impact private companies, acting as CEO and managing partner of a US law firm, building public strategies on digital services, entrepreneurship, and innovation programs, and founding the Next Mile Project, a first-of-its-kind incubator where social change organizations received access to a suite of philanthropically funded customized services to support and scale their impact - leveraging private sector expertise for the public good. The Next Mile Project was acquired in January 2017.

Through his private office, Vilas now manages a global portfolio of direct, venture, and philanthropic investments, advises international entities on social and economic investing strategy, and sits on several public and private sector boards. He has served as the Gleitsman Fellow on Social Change at Harvard University, and as the Entrepreneur-in-Residence at the University of Illinois. He holds a J.D. from NYU School of Law, an M.P.A, from the Harvard Kennedy School, and dual Bachelor's degrees in Biomedical Engineering and Computer Science from the University of Illinois, where he was named University Chancellor's Scholar.

**4:00pm – 5:00pm      Session 5, continued**

**Speakers:**

**Rachel Gillum**, Vice President, Ethical and Humane Use of Technology, Salesforce; Affiliate, Stanford Immigration Policy Lab

Rachel Gillum is a leader with experience driving strategic initiatives within multinational corporations, the U.S. government, and academia, helping organizations understand, navigate, and mitigate geopolitical and ethical risks that can negatively impact society as well as consumer brands.

Gillum is currently Vice President of Salesforce's Office of Ethical & Humane Use of Technology, where she and her team work to ensure Salesforce technologies, including AI, are not used for harm and uphold basic human rights. Reporting directly to the chief ethical & humane use officer, Gillum developed Salesforce's ethical use policy practice, defining and executing on the strategic vision while building out her global team. During her tenure, Gillum has established the company's key policy guardrails to prevent Salesforce technologies from contributing to adverse human rights impacts, and she has scaled policy operations across Salesforce's suite of acquisitions and product offerings globally.

Rachel manages Salesforce's Ethical Use Advisory Council— a group that includes international experts from organizations such as the United Nations, Freedom House, academic institutions and more. Rachel is also an original member of the the Salesforce Racial Equality & Justice Taskforce Policy Committee where she and her colleagues develop principled stances for Salesforce's government affairs team in support of racial justice and equality legislative efforts in the United States.

Rachel received her doctorate and master's degrees from Stanford University and her bachelors at the University of Washington in Seattle.

**John Hennessy**, President Emeritus, Stanford University; Chairman of the Board, Alphabet Inc.; Advisory Council Member, Stanford HAI

John Hennessy, professor of electrical engineering and computer science, served as president of Stanford University from September 2000 until August 2016. In 2017, he initiated the Knight-Hennessy Scholars Program, the largest fully endowed graduate-level scholarship program in the world, and he currently serves as director of the program.

Hennessy, a pioneer in computer architecture, joined Stanford's faculty in 1977 as an assistant professor of electrical engineering. In 1981, he focused on a technology known as RISC (reduced instruction set computer), which revolutionized computing by increasing performance while reducing costs. His subsequent research focused on multiprocessor systems, including the DASH and FLASH projects, both of which pioneered concepts now used in industry. He served as chair of Computer Science (1994-1996), dean of the School of Engineering (1996-1999), and university provost (1999-2000) before being appointed as Stanford's 10th president in 2000. As president he focused on increasing financial aid and developing new initiatives in multidisciplinary research and teaching. He was the founding board chair of Atheros Communications, one of the early developers of WiFi technology, and has served on the board of Cisco and Alphabet (Google's parent company).

**4:00pm – 5:00pm      Session 5, continued**

**Speakers:**

**Susan Liautaud**, Founding and Managing Director, Susan Liautaud & Associates Limited; Advisory Council Member, Stanford HAI

Susan Liautaud is the founder and managing director of Susan Liautaud & Associates Limited, a boutique advisory firm advising global leaders and corporate, nonprofit, academic, and governmental institutions internationally on complex ethics matters. Liautaud is the chair of council (trustees) of the London School of Economics and Political Science. Liautaud also founded a nonprofit collaborative platform for debate on innovative ethics called The Ethics Incubator. Liautaud teaches cutting-edge ethics courses at Stanford University.

She serves on a number of other boards and advisory boards, including the U.K. government's Centre for Data Ethics and Innovation; U.K. Cabinet Office's Advisory Committee on Business Appointments; the Pasteur Institute; Doctors Without Borders/Médecins Sans Frontières; Care International; SAP AI Ethics Advisory Panel; and the Freeman Spogli Institute for International Affairs at Stanford.

Susan has a PhD in social policy from the London School of Economics and Political Science, a JD from Columbia University Law School, a MA in Chinese studies from the University of London SOAS, and two BAs and a MA from Stanford University.

**5:00pm – 6:00pm      Reception**

**6:00pm – 7:30pm**

**Keynote Dinner: Democracy in a World of AI-Fueled Disinformation and Digital Authoritarianism**

The introduction of AI into society has had ripple effects on governments worldwide. Disinformation spreading on digital platforms—further amplified by AI—has had real-world consequences on democracy. Additionally, authoritarian countries are leveraging AI to further surveil and control their populations. The future of democracy hangs in the balance of making sure AI is used to affirm democratic systems and reinforce norms and values for the betterment of humanity. This dinner discussion will unpack the complexities of AI as it intertwines with different governments and consider how to ensure democracy prevails in a digital world.

**Speakers:**

**Daniel Ho** (moderator), William Benjamin Scott and Luna M. Scott Professor of Law, Stanford Law School; Director, Stanford Regulation, Evaluation, and Governance Lab; Faculty Associate Director, Stanford HAI; Member, National Artificial Intelligence Advisory Committee
*See biography on page 12.*

**Francis Fukuyama**, Olivier Nomellini Senior Fellow, Stanford Freeman Spogli Institute for International Studies; Director, Susan Ford Dorsey Master's in International Policy, Stanford University; Faculty Affiliate, Stanford HAI
*See biography on page 11.*

**Condoleezza Rice**, Tad and Dianne Taube Director, Hoover Institution; Denning Professor in Global Business and the Economy, Stanford Graduate School of Business; Advisory Council Member, Stanford HAI
*See biography on page 16.*

## DAY 3: WEDNESDAY, AUGUST 10, 2022

**8:30am – 9:00am**

**Breakfast**
This session will introduce the last day of the boot camp and answer any questions staffers may have.

**Speakers:**



**John Robichaux**,
Director of Education,
Stanford HAI
*See biography on page 19.*



**Russell Wald**,
Director of Policy,
Stanford HAI
*See biography on page 19.*

**9:00am – 10:00am**

**Session 1: Revolutionizing the Classroom: How AI Is Advancing Education**
AI has the potential to dramatically improve education. From teacher support to personalized student engagement, AI could democratize extraordinary teaching and learning. But dangers and concerns loom. Collecting data from children raises privacy concerns, and current inequities in the education system might be exacerbated by the introduction of AI. This session will look into how AI can be leveraged to improve the education system without causing harm to teachers and students.

**Speakers:**



**Emma Brunskill**, Associate Professor of Computer Science, Stanford University; Faculty Affiliate, Stanford HAI

Emma Brunskill's research interest is to create robust AI systems, particularly in the healthcare and education sectors, that learn from a few samples. Brunskills's lab is part of the Stanford AI Lab, the Stanford Statistical ML group, and AI Safety @Stanford. Previously, Brunskill was an assistant professor at Carnegie Mellon University. Her work has been honored by early faculty career awards (National Science Foundation, Office of Naval Research, Microsoft Research), and she has received several best research paper nominations (CHI, EDMx3) and awards (UAI, RLDM, ITS).



**John Robichaux** (moderator), Director of Education, Stanford HAI
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**9:00am – 10:00am    Session 1, continued**

**Speakers:**

**Daniel L. Schwartz**, I. James Quillen Dean and Nomellini & Olivier Professor of Educational Technology, Stanford University; Faculty Affiliate, Stanford HAI

Daniel L. Schwartz leads Stanford's Transforming Learning Accelerator, a major interdisciplinary initiative advancing the science and design of learning to bring effective and equitable solutions to the world. An expert in human learning and educational technology, Schwartz also oversees a laboratory that creates pedagogy, technology, and assessments that prepare students to continue learning and adapting throughout their lifetimes. He has taught math in rural Kenya, English in south-central Los Angeles, and multiple subjects in Kaltag, Alaska. As co-host of the Stanford podcast and SiriusXM radio show School's In, Schwartz discusses current topics in teaching and learning with the aim of helping educators and parents understand and use the latest research. He is author of *The ABCs of How We Learn: 26 Scientifically Proven Approaches, How They Work, and When to Use Them*.

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**10:00am – 11:00am**   **Session 2: The New Creative Industry: How AI Is Reshaping Arts and Culture**
Artististic and cultural expression is one of the hallmarks of advanced societies. Today we understand the intersection of arts and culture with wellness, innovation, creativity, diversity, and health. AI is expanding artistic and cultural expression, opening up new possibilities for our state, local, and federal arts and culture programs. This session will explore why and how AI needs to be more integrated with the humanities and arts in order to contribute to human flourishing, especially when it comes to social justice.

**Speakers:**

**Michele Elam**,
William Robertson Coe Professor of Humanities, Stanford University;
Faculty Associate Director, Stanford HAI

Michele Elam is also a race & technology affiliate at the Center for Comparative Studies in Race and Ethnicity.

Elam's research in interdisciplinary humanities connects literature and the social sciences in order to examine changing cultural interpretations of gender and race. Her work is informed by the understanding that racial perception in particular impacts outcomes for health, wealth, and social justice. More recently, her scholarship examines intersections of race, technology, and the arts. *Making Race in the Age of AI*, her most recent book project, considers how the humanities and arts function as key crucibles through which to frame and address urgent social questions about equity in emergent technologies.

**Kamal Sinclair**,
Senior Director of Digital Innovation, The Music Center in Los Angeles

Kamal Sinclair also serves as an advisor or board member to Peabody Awards interactive Board, For Freedoms, NEW INC.'s ONX Studio, Civic Signals, For Freedoms, MIT's Center for Advanced Virtuality, and Eyebeam. Previously, she was the Director of Sundance Institute's New Frontier Labs Program, External Advisor to Ford Foundation's JustFilms and MacArthur Foundation's Journalism & Media Program, Executive Director of the Guild of Future Architects, and artist/producer on Question Bridge: Black Males. She is the co-author of Making a New Reality.

**11:00am – 11:15am**   **Break**

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**11:15am – 12:15pm**

**Session 3: Transforming Healthcare Through Innovation**

Some of the most exciting advances of this technological wave are focused on healthcare: faster and better diagnoses, enhanced therapies, increased hospital standards which reduce patient harms, and protein folding which has the potential to cure debilitating diseases. Healthcare is on the cusp of a revolution that will advance human well-being. At the same time, the United States faces an incredible shortage of qualified healthcare workers, lacks proper evaluation of medical devices, and struggles with unclear liability risk/clinician responsibility. These mounting challenges raise the question, can AI help "save" the U.S. healthcare system? This session will highlight the coming changes in healthcare, the opportunities and risks AI presents, and how policies can ensure safe and robust health systems.

**Speaker:**

**Alyce Adams**,
Medicine Innovation Professor, Professor of Epidemiology and Population Health, of Health Policy, and, by courtesy, of Pediatrics, Stanford University; Associate Director for health Equity and Community Engagement, Stanford Cancer Institute

Focusing on racial and socioeconomic disparities in chronic disease treatment outcomes, Alyce Adams' interdisciplinary research seeks to evaluate the impact of changes in drug coverage policy on access to essential medications, understand the drivers of disparities in treatment adherence among insured populations, and test strategies for maximizing the benefits of treatment outcomes while minimizing harms through informed decision-making. Prior to joining Stanford School of Medicine, Adams was associate director for health care delivery and policy and a research scientist at the Kaiser Permanente Division of Research, as well as a professor at the Bernard J. Tyson Kaiser Permanente School of Medicine.

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**11:15am – 12:15pm     Session 3, continued**

**Speakers:**

**Matthew Lungren**, Chief Medical Information Officer, Nuance Communications, a Microsoft Company; Associate Clinical Professor, University of California San Francisco; Associate Fellow, Stanford Center for Artificial Intelligence in Medicine & Imaging

Matthew Lungren is Chief Medical Information Officer at Nuance Communications, a Microsoft Company. As a physician and clinical machine learning researcher, he maintains an interventional radiology practice at UCSF while also serving as adjunct faculty for other leading academic medical centers including Stanford and Duke.

Prior to joining Microsoft, Lungren was an interventional radiologist and research faculty at Stanford University Medical School where he led the Stanford Center for Artificial Intelligence in Medicine and Imaging (AIMI). More recently he served as Principal for Clinical AI/ML at Amazon Web Services in World Wide Public Sector Healthcare, focusing on business development for clinical machine learning technologies in the public cloud.

His scientific work has led to more than 100 publications, including work on multi-modal data fusion models for healthcare applications, new computer vision and natural language processing approaches for healthcare specific domains, opportunistic screening with machine learning for public health applications, open medical data as public good, and prospective clinical trials for clinical AI translation.

**Sherri Rose** (moderator), Associate Professor of Health Policy, Stanford University; Co-Director, Stanford Health Policy Data Science Lab; Faculty Affiliate, Stanford HAI

Sherri Rose's research is centered on developing and integrating innovative statistical machine learning approaches to improve human health and health equity. Within health policy, Rose works on risk adjustment, ethical algorithms in healthcare, comparative effectiveness research, and health program evaluation. She has published interdisciplinary projects across varied outlets, including *Biometrics*, *Journal of the American Statistical Association*, *Journal of Health Economics*, *Health Affairs*, and *New England Journal of Medicine*. In 2011, Rose co-authored the first book on machine learning for causal inference, with a sequel text released in 2018. She has been co-editor-in-chief of the journal *Biostatistics* since 2019.

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**12:15pm – 1:30pm**    **Session 4 (Lunch): Modernizing a Mammoth: Use-Cases of Public Sector AI**
The U.S. government is in great need of a technological upgrade. From streamlining administrative processes to providing personalized services to constituents, there is ample opportunity for AI to help government agencies achieve their missions. However, integrating AI into the government is not as easy as obtaining and deploying the technology. Talent, infrastructure, public trust, and morale play equally important roles in ensuring the successful modernization of government. This session will dive into current use-cases of AI in government, the challenges and successes of these cases, and how to improve the integration of new technologies that will help the government serve its citizens.

**Speaker:**

**Daniel Ho**, William Benjamin Scott and Luna M. Scott Professor of Law, Stanford Law School; Director, Stanford Regulation, Evaluation, and Governance Lab; Faculty Associate Director, Stanford HAI; Member, National Artificial Intelligence Advisory Committee
*See biography on* page 12.

**1:30pm – 1:45pm**    **Break**

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**1:45pm – 2:45pm**      **Closing Keynote Session 5: Resisting Digital Temptations: How AI Fuels Addiction**
From substance abuse to gluttonous diets, addiction has long devastated humanity. But how has AI fueled and even introduced new addictions for humans? In recent years, gaming platforms have deployed algorithms that lead players to believe they are going to win, and in turn, enticing them to play again and again. And tailored advertisements on e-commerce platforms provide the dopamine hit at the optimal moment to compel consumers into purchasing goods they may not need. This session will unpack how AI has introduced new gateway opportunities for human addiction and how to resist these digital temptations.

**Speakers:**

**Jennifer King**,
Privacy and Data Policy
Fellow, Stanford HAI
*See biography on page 22.*

**Anna Lembke**, Professor of
Psychiatry and Behavioral
Science, Stanford University
*See biography on page 13.*

**2:45pm – 4:15pm**      **Session 6: Trip to the Stanford Virtual Human Interaction Lab**
Staffers will take a trip to Stanford's Virtual Human Interaction Lab (VHIL) to get hands-on experience in virtual and augmented reality technology (VR/AR). This session will dive into how VR/AR will transform society, how to create VR/AR that will enhance and not detract from reality, and the psychological processes that people undergo while using VR/AR.

**Speaker:**

**Jeremy Bailenson**, Founding Director, Stanford Virtual Human Interaction Lab; Thomas More Storke Professor of Communication, Stanford University; Senior Fellow, Stanford Woods Institute for the Environment; Faculty Leader, Stanford Center for Longevity

Jeremy Bailenson earned a B.A. from the University of Michigan in 1994 and a Ph.D. in cognitive psychology from Northwestern University in 1999. He spent four years at the University of California, Santa Barbara, as a postdoctoral fellow and then an assistant research professor.

**4:15pm – 4:30pm**    **Walk to Gates**

**4:30pm – 6:30pm**    **Dinner**
The final dinner will recap the entire boot camp, solicit feedback on what staffers enjoyed, and invite suggestions for areas of improvement. HAI staff and directors will lead this conversation.

**Speaker:**

**Tina Huang,** Policy Program Manager, Stanford HAI

Tina Huang is the Policy Program Manager at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). In this role, she oversees numerous programs designed to equip policymakers in the United States and abroad with the knowledge and skills necessary to make informed decisions on various emerging technologies.
Prior to joining HAI, Tina served as the AI policy fellow for Rep. Jerry McNerney (CA-09), co-chair of the Congressional AI Caucus, where she provided research support for the congressman's AI legislative agenda. Tina was also a research analyst at Georgetown's Center for Security and Emerging Technology, where she focused on AI talent, specifically analyzing the competitiveness of U.S. immigration policies for attracting and retaining international talent compared to those in U.S. economic competitor nations. She also conducted research on U.S. military investments in AI and the calibration of trust in human-machine teams engaged in warfare environments. Tina is an adviser to Girl Security, a nonprofit preparing girls, women, and gender minorities for national security careers. She previously served as curriculum program director for Girl Security, where she created modules on various national security topics for middle- to high-school-aged girls. Tina earned her B.A. in international studies from Emory University and M.A. in security studies from the Georgetown Walsh School of Foreign Service.

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# CONGRESSIONAL STAFF BIOGRAPHIES:

**Mark Akpaninyie, House Committee on Foreign Affairs**
Mark Akpaninyie is the Indo-Pacific Policy Analyst on the House Foreign Affairs Committee. Before Congress, he worked on the Senate campaign for Jon Ossoff and the presidential campaign for Elizabeth Warren. Prior, Mark worked at the Center for Strategic and International Studies (CSIS) as an RA in the Simon Chair in Political Economy and Reconnecting Asia Project. He previously worked for the late Dr. Zbigniew Brzezinski and the Freeman Chair in China Studies at CSIS. Mark lived in China for three years, serving as a fellow with Teach For China and a lecturer at Baoshan University in Yunnan. He is a National Committee on U.S.-China Relations member, Truman Security Fellow, and CNAS NextGen Fellow. Mark is the co-founder of the Black China Caucus and part of the leadership of the National Association for Black Engagement with Asia. He graduated with a B.A. in public policy studies from Duke University.

**Hannah Anderson, Representative Dan Crenshaw**
Hannah Anderson serves as the Energy & Commerce Policy Director for her hometown member of Congress, Rep, Dan Crenshaw, of Houston, Texas. She's worked on the Hill and in the private sector, at the Boston Consulting Group, for the last 10 years. Her policy focuses include patient-centered healthcare, rational environmentalism, and the next gen tech. She can often be found consuming large amounts of coffee.

**Mana Azarmi, Senator Alex Padilla**
Mana Azarmi is a Technology Policy Counsel to Sen. Alex Padilla. Prior to joining the Senate, she worked on technology policy at the Center for Democracy & Technology, a DC-headquartered nonprofit.

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**Brent Blevins, House Committee on Science, Space, and Technology**

Brent Blevins serves as Senior Policy Adviser for the House Science Committee. He has almost 15 years of experience on Capitol Hill and previously worked in the Virginia General Assembly. He is a native of southwest Virginia and is an alumnus of Virginia Tech.

**Selene Ceja, Representative Ro Khanna**

Selene Ceja serves as a Legislative Assistant to Rep. Ro Khanna leading the congressman's technology, cybersecurity, and economic policy portfolio. Before joining Khanna's legislative team, Selene served as the CHCI Meta/Facebook Graduate Fellow on the Senate Committee on Homeland Security and Governmental Affairs, where she focused on cybersecurity and disinformation. On Committee, she supported Chairman Gary Peters of Michigan in navigating the federal response during SolarWinds, Colonial Pipeline and the Capitol attack on January 6 while helping secure nominations for CISA Director Jen Easterly and National Cyber Director Chris Inglis. Prior to the Hill, Selene advocated for first-generation, low-income students via the federal TRIO programs and won an unprecedented billion-dollar appropriation for the LBJ-era program in a Republican-led Congress. Selene earned her B.A. in government from Georgetown University and M.A. in public policy from the University of Michigan (UM). She is currently pursuing a M.S. in information focused on data science at UM.
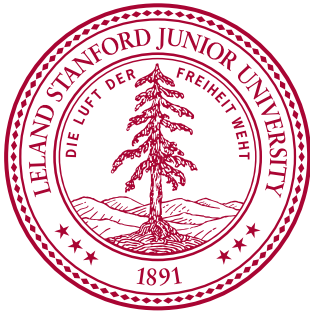
**Patricia Clarke, Representative Anthony Gonzalez**

Patricia Clarke is originally from Cleveland Heights, Ohio, where she graduated from the University of Dayton with a degree in political science. Patricia has been with the office of Congressman Anthony Gonzalez for roughly three years and currently covers the technology, defense, foreign affairs, judiciary, and education portfolios.

**Rashan Colbert, Senator Cory Booker**

Rashan Colbert is a Legislative Assistant for Sen. Cory Booker and leads the senator's work on technology and telecommunications policy. He also does extensive work on a number of other issues, including cryptocurrency and digital assets and college athletics reform. Rashan has worked in the U.S. Senate since 2016, with a break in 2019 to work on Senator Booker's presidential campaign. He is a graduate of Randolph College in Lynchburg, Virginia.

**Lillie Coney, Representative Sheila Jackson Lee**

Lillie Coney is Chief of Staff for Rep. Sheila Jackson Lee, a senior member of the U.S. House of Representatives who serves on committees on the Judiciary, Homeland Security, and the Budget. Her policy responsibilities include: cybersecurity, homeland security, national security, national defense, and healthcare policy. She is skilled at executing legislative strategies for the amendment process for NDAA and House appropriations bills. Before returning to the Hill after a 12-year absence, she was associate director of EPIC, a Washington, D.C.-based privacy think tank focused on the nexus of technology, innovation, human rights, and the law. At EPIC she led the organization's domestic and international coalition work, for which she hosted meetings in Washington, Mexico, Uruguay, and Israel. She chairs the IEEE working group for the Project 1912, Standard for Privacy and Security Framework for Consumer Wireless Devices. She holds seven U.S. patents, most of which are in IoT cybersecurity.

**David Dorfman, Senate Committee on Homeland Security**

David Dorfman serves as Counsel to the Senate Homeland Security Committee, where he leads the GovOps Subcommittee's technology portfolio. Previously, he was Counsel to the House Homeland Security Committee and Legislative Director/General Counsel to the Energy & Commerce Committee's Vice Chair and the Cybersecurity Subcommittee's Chair, where he ran the XR Caucus. He has also served as Chief Counsel for the House Foreign Affairs Committee's Asia and Nonproliferation Subcommittee and on the Senate Judiciary Committee. Before Capitol Hill, he practiced tech law at Shearman & Sterling in Hong Kong and worked at the U.S. Department of Justice's National Security Division. Previously, David was also an award-winning Hollywood actor and was recently included in *Forbes* magazine's "30 Under 30" list. After starting college at 13, David earned his B.A. from UCLA and J.D. from Harvard Law.

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**Jennifer Epperson, House Committee on Energy and Commerce**

Jennifer Epperson is the Senior Counsel for the Communications and Technology subcommittee of the Energy and Commerce Committee in the U.S. House of Representatives. She is responsible for developing and advancing the legislative and policy goals for Committee Chairman Frank Pallone and other Democratic members on communications policies, including affordable and accessible broadband internet service, broadband mapping, open internet, spectrum management, and social media accountability. She joined the committee's staff in 2018 as a detail from the Federal Communications Commission, where she enforced the agency's open internet, privacy, consumer protection, and competition laws and regulations. She also worked as Counsel to the Senate Commerce, Science, and Transportation Committee under Chairman John D. Rockefeller, and as policy counsel to North Carolina Governor Michael Easley and North Carolina Attorney General Roy Cooper. Jennifer grew up outside of Fort Worth, Texas, and received her undergraduate degree from Texas A&M University and law degree from the Georgetown University Law Center.

**Vincent Evans, Congressional Black Caucus**

Vincent Evans serves as Executive Director of the Congressional Black Caucus. Evans oversees the legislative policy agenda, coordinates the external and political affairs of the Caucus, and manages a staff in support of the CBC.

**Matthew Hamilton, Senate Committee on Commerce, Science, and Transportation**

Matthew Hamilton is a Professional Staff Member with the minority staff of the Senate Committee on Commerce, Science, and Transportation. He advises the committee's ranking member, Sen. Roger F. Wicker, on technology and telecommunications policy. His portfolio includes the Subcommittee on Communications, Media, and Broadband and the Subcommittee on Consumer Protection, Product Safety, and Data Security. Prior to serving as a Professional Staff Member, he was an Investigative Aide with the committee and focused on conducting oversight investigations and vetting nominees. He has also worked at the Federal Communications Commission and in economic consulting. Matthew graduated from Stanford University with a B.A. in economics, with honors.

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**Rob Hicks, Representative Jay Obernolte**

Rob Hicks is the Legislative Director for California Representative Jay Obernolte. He has served in the House for eight years, and previously worked for members from Virginia and Indiana. A native Hoosier, he graduated from Indiana University, where he did not study anything related to computer science or AI, but spent many hours pondering what constitutes consciousness and intelligence while getting a degree in philosophy. While nowhere near as smart as his boss, who first worked for Nintendo before getting a Masters in AI, Rob has handled technology issues in some form or another his entire congressional career and believes AI policy making requires far greater nuance than traditional computing due to the often very personal data AI must be allowed to access to maximize its potential. Rob enjoys cocktails, video games, and alternates between reading pulpy science-fiction and classic literature. He and his wife live in Alexandria, Virginia.

**Zach Isakowitz, Representative Michael McCaul**

Zach Isakowitz currently serves as the Legislative Director for Congressman Michael McCaul of Texas. In his role, he oversees the legislative staff, day-to-day legislative operations, and multiple issue areas for the office, including technology, cybersecurity, and appropriations. He joined the office in March 2020 as the Coalitions Director for Representative McCaul. Prior to Capitol Hill, Zach served as the Director of Public Affairs for the Office of Terrorism and Financial Intelligence at the U.S. Department of the Treasury. Zach lives with his fiancé in Oak Hill, VA.

**Stanton Johnson, House Committee on Science, Space, and Technology**

Stanton Johnson is a D.C. native who has worked on Capitol Hill for the past six years with the Committee on Science Space and Technology. Prior to his time on the Hill, he worked as an associate at a large, national law firm.

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**Kyle Klein, House Committee on Homeland Security**

Kyle Klein is the staff director of the House Homeland Security Committee Republican staff. In this role, Kyle oversees legislative and oversight efforts related to the Department of Homeland Security and its components, while working to advance the ranking member's policy agenda. Now in his 11th year with the committee, Kyle's deep-rooted policy bona fides cover wide-ranging security challenges, including cybersecurity and technology; transportation and maritime security; counterterrorism and intelligence; and emergency preparedness. Kyle holds a master's degree in strategic intelligence from the National Intelligence University, the intelligence community's sole accredited, federal degree-granting institution.

**Michael Koren, House Committee on the Judiciary**

Michael Koren is a Senior Professional Staff Member for the United States House of Representatives' Committee on the Judiciary, where he advises Members of Congress and their staff on national security topics. Previously, Michael worked for the National Security Subcommittee for the U.S. House of Representatives' Committee on Oversight and Reform, as well as the Committee on Ethics. Michael holds a bachelor's degree in Near Eastern studies from Johns Hopkins University and a master's degree in defense and strategic studies from the U.S. Naval War College.

**Ann Kowalewski, Senate Foreign Relations Committee**

Ann Kowalewski is a Senior Policy Analyst covering the Indo-Pacific for the Senate Foreign Relations Committee. Her portfolio focuses on technology, U.S. defense posturing and alliances, and Chinese military and politics. Prior to SFRC, she worked at the American Enterprise Institute and the Scottish Parliament. She received her master's degree in security studies from Georgetown University and a law degree from the University of Edinburgh. She is fluent in Mandarin Chinese.

### Nawaid Ladak, Representative Eddie Bernice Johnson

Nawaid Ladak is the Legislative Director for Congresswoman Eddie Bernice Johnson. He is the primary policy adviser on issues related to appropriations, education, foreign affairs, trade, and other issues. Nawaid also serves as a liaison between the congresswoman's personal office and the professional staff on the House Committee on Science, Space, and Technology, where Congresswoman Johnson serves as chairwoman. Born in Dallas, Texas, and raised in Orlando, Florida, Nawaid is a proud University of Central Florida alumnus. Before coming to Capitol Hill, he worked in logistics management in the telecommunications industry. In his free time, he enjoys board games and attending sporting events.

### Anna Lenhart, Representative Lori Trahan

Anna Lenhart is Congresswoman Trahan's Senior Technology Policy Advisor. The congresswoman has been an outspoken advocate for child online protection and comprehensive platform accountability in her role on the House Consumer Protection Subcommittee. Prior to working for Congress, Anna was a Senior Consultant and the AI Ethics Initiative Lead for IBM's Federal Government Consulting Division, training data scientists and operationalizing principles of transparency, algorithm bias, and privacy rights in AI and machine learning systems. She has researched the human right to freedom from discrimination in algorithms, public views on autonomous vehicles, and the impact of AI on the workforce. She holds a master's degree from the Ford School at the University of Michigan and a B.S. in civil engineering and engineering public policy from Carnegie Mellon University. Prior to graduate school, Anna was the owner of Anani Cloud Solutions, a consulting firm that implemented and optimized Salesforce.com for nonprofit organizations.

### Sean Misko, House Permanent Select Committee on Intelligence

Sean Misko is a senior professional staff member with the House Permanent Select Committee on Intelligence, where his responsibilities include leading oversight work at the intersection of national security, technology, and human rights issues. Previously, Sean served in a range of executive branch roles, including as Director for Gulf States at the National Security Council, Member of the Secretary's Policy Planning Staff at the U.S. Department of State, and as an analyst at the Central Intelligence Agency. He has been involved in some of our nation's most sensitive diplomacy, including negotiations to end the Afghanistan War, and shaped U.S. policy to prevent Iran from obtaining a nuclear weapon. Sean holds a master's in public policy in international security and political economy from the Harvard John F. Kennedy School of Government, and B.A. degrees in international politics and media studies from Penn State University.

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**Amar Pandya, Senate Committee on Health, Education, Labor, and Pensions**

Amar Pandya serves as a Policy Advisor for Chair Patty Murray's Labor policy team on the Senate HELP Committee. He previously spent four years working in Sen. Tammy Baldwin's office, where he authored for the senator the Victims of Crime Act "Deposits Fix," which was signed into law by President Biden in 2021. In Senator Baldwin's office, his portfolio was focused on economic policy but also included science policy. Amar holds a master's degree in biomedical sciences and a bachelor's degree in biology.

**Jake Parker, Senator Bill Cassidy**

Jake Parker serves as Policy Adviser for Sen. Bill Cassidy (R-LA). In this position Jake oversees a portfolio that includes cybersecurity, data privacy, technology, flood insurance, Social Security, and federal IT modernization issues. Before assuming the role in the Senate, Jake spent a decade in China analyzing Chinese government data localization, cross-border data flow, and critical information infrastructure policies with the US-China Business Council (USCBC). He is fluent in Mandarin Chinese. Before joining USCBC, Jake was a program manager at Philips Healthcare, where he oversaw implementation of government loan projects for developing medical infrastructure in China. Prior to that, Jake was director of operations for the USA Pavilion Shanghai Expo 2010, Jake was responsible for the operation of the pavilion, and for sharing American culture and values with the more than 7 million visitors during the Expo's six months of operation. Jake also serves as a U.S. Navy Reserve Officer.
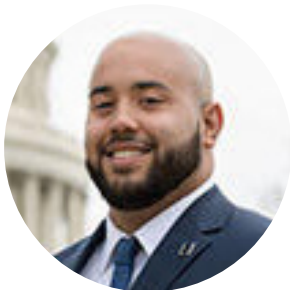
**Kylie Patterson, House Committee on Financial Services**

Kylie Patterson serves as Director of Diversity and Inclusion for the House Committee on Financial Services under Chairwoman Maxine Waters. In her role, Kylie works to promote diversity and inclusion and increase accountability in our nation's housing and financial services sectors, and across the federal agencies and programs under the committee's jurisdiction. Kylie also advises all the committee's subcommittees and task forces to center and better support Black, Indigenous, and People of Color (BIPOC), women, veterans, individuals with disabilities, and people living in underserved and rural areas. Previously, Kylie led a similar portfolio as a Professional Staff Member on the U.S. Senate Committee on Small Business and Entrepreneurship. Prior to serving on Capitol Hill, Kylie spent more than 10 years directing multimillion dollar programs, investigations, and evaluations to address racial and economic inequality. In her spare time, she enjoys salsa, musicals and chewing bubblegum.

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## Lori Prater, Representative Mike Kelly

Lori Prater serves as Policy Director and Tax and Trade Counsel for Congressman Mike Kelly, a senior member of the Ways and Means Committee with jurisdiction over tax, trade, Social Security, and healthcare matters. Congressman Kelly is the Ranking Member of the Oversight Subcommittee on Ways and Means. Having worked on Capitol Hill for more than two decades, Lori has worked as senior policy staff in both the U.S. House of Representatives and the U.S. Senate for Members of Congress from Oregon, California, and Pennsylvania, including Sen. Gordon H. Smith (R-OR) as General Counsel, Congressman Jim Gerlach (R-PA) as Legislative Counsel, Congressman Mike Honda (D-CA) as District Consultant, and Congressman Tom Campbell (R-CA) as Senior Legislative Assistant. She has also worked as the Director of Government Relations for the Information Technology Industry Council (ITI), a leading information technology trade association, representing the "top 50" high-tech companies in Washington, D.C.

## Oliver Riquelme, Senator Martin Heinrich

Oliver Riquelme is the Military Legislative Assistant, Office of Sen. Martin Heinrich Oliver advises the senator on matters of defense, foreign policy, national security, and veterans' issues. Prior to joining Sen. Heinrich's office, Oliver served as a Policy Aide for Sen. Kirsten Gillibrand. In this capacity, he advised Sen. Gillibrand on financial services, defense, banking, and homeland security. While at the University of Pennsylvania, Oliver worked at the Children's Hospital of Philadelphia's Developmental and Behavioral Pediatrics department, where he facilitated behavioral health services to low-income children and their families across Philadelphia. He also completed an externship in behavioral and developmental health at the Child Study Center at New York University Langone Medical Center. Oliver was born and raised in New York City before relocating to South Florida. After high school, he enlisted in the U.S. Marine Corps, serving as an infantry mortarman. He is a graduate of Florida Atlantic University.

# SPECIAL THANK YOU FOR THE STANFORD HAI STAFF WHO CONTRIBUTED TO THE BOOT CAMP:

**Haifa Badi Uz Zaman, Program Manager for Diversity, Equity, and Inclusion**
Haifa Badi Uz Zaman is the inaugural Program Manager for Diversity, Equity and Inclusion at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). Prior to Stanford, Haifa was a Campus Director with Citizen Schools in San Jose, California, where she managed STEM education programs at low-income public schools. She holds an Ed.M. in international education policy from Harvard University as the Aga Khan Foundation's International Scholar at the Graduate School of Education. Haifa also holds a B.A. in mass communication with a minor in international studies and governmental studies from the American University of Sharjah. She has worked as a communications associate for the Aga Khan Academies in Kenya and written for news publications in Pakistan and the United Arab Emirates.

**Jeanina Casusi, Email and Social Marketing Manager**
Jeanina Casusi is the Social Media and Email Marketing Manager at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). Her role involves elevating the institute's social media presence and developing campaigns to grow its key audiences across all channels. Prior to joining the institute, she has worked with local and global nonprofits in the U.S. and the Philippines in various capacities involving digital media, marketing, news writing, graphic design, and events. She majored in journalism and graduated with a Bachelor of Science degree in Development Communication at the University of the Philippines Los Banos. In her spare time, she volunteers as a photographer and a graphic designer for Mahalaya, an SF-based community newspaper, which centers the experiences and narratives of Filipinos in and beyond the Bay Area.

**Celia Clark, Events Manager**
Celia Clark is the Events Manager at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). In this role, she oversees HAI's events, including large-scale conferences, workshops, and seminars. Prior to joining HAI, Celia was the Event Planner for the Stanford Institute for Economic Policy Research (SIEPR). Before moving to California to join Stanford, Celia spent eight years working in the sports industry, where she focused on marketing and operations. Celia earned her B.A. in psychology from Agnes Scott College and M.S. in recreation, sports, and tourism from the University of Illinois, Urbana-Champaign.

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**Joe Hinman, Web Designer**

Joe Hinman is a Web Designer at the Stanford Institute for Human-Centered Artificial Intelligence (HAI), where he is a graphic designer and manages the HAI website. Before coming to HAI, he was a Web Specialist at Stanford's Financial Management Services and coordinated their web design needs. When not brainstorming ways to visualize AI, he loves long distance running in San Francisco and surfing at Ocean Beach.

**Tina Huang, Policy Program Manager**

Tina Huang is the Policy Program Manager at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). In this role, she oversees numerous programs designed to equip policymakers in the United States and abroad with the knowledge and skills necessary to make informed decisions on various emerging technologies. Prior to joining HAI, Tina served as the AI policy fellow for Rep. Jerry McNerney (CA-09), co-chair of the Congressional AI Caucus, where she provided research support for the congressman's AI legislative agenda. Tina was also a research analyst at Georgetown's Center for Security and Emerging Technology, where she focused on AI talent, specifically analyzing the competitiveness of U.S. immigration policies for attracting and retaining international talent compared to those in U.S. economic competitor nations. She also conducted research on U.S. military investments in AI and the calibration of trust in human-machine teams engaged in warfare environments. Tina is an adviser to Girl Security, a nonprofit preparing girls, women, and gender minorities for national security careers. She previously served as curriculum program director for Girl Security, where she created modules on various national security topics for middle- to high-school-aged girls. Tina earned her B.A. in international studies from Emory University and M.A. in security studies from the Georgetown Walsh School of Foreign Service.

**Shana Lynch, Head of Content**

Shana Lynch is Head of Content at the Stanford Institute for Human-Centered Artificial Intelligence (HAI), where she oversees the HAI blog that features new research and faculty thought leadership. Before coming to HAI, she was a senior editor at Stanford Graduate School of Business and managing editor at the *Silicon Valley Business Journal*. When not pondering AI's existential risk to humanity, she is a volunteer creative writing tutor and frequent tourist, and will indeed stop to pat every dog.

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**Marissa Macskill, Education Program Manager, Fellowships & Faculty Affairs**

Marisa MacAskill joined the Stanford Institute for Human-Centered Artificial Intelligence (HAI) in 2020 and serves as the Program Manager for Education and Fellowships, as well as leading the charge for HAI Faculty Affairs. Marisa started her career at Stanford in 2017 as the Fellowships and Student Programs Manager for the Center for International Security and Cooperation (CISAC), where she delivered academic programming, managed admissions, and supported research and learning opportunities for undergraduate and graduate students, and postdoctoral fellows. Prior to Stanford, Marisa was the Assistant Director for Administration and Programming at the McKinnon Center for Global Affairs at Occidental College, where she worked on strategic initiatives, international programming, and student/faculty grants. Marisa also served as a seasonal reader for Oxy's admissions office and as a strategic planning analyst for the Annenberg Foundation Trust at Sunnylands. Marisa holds an M.A. in international relations from the Josef Korbel School of International Studies at the University of Denver and a B.A. in Spanish language and literature from the University of California, Berkeley.

**Holly McCall, Policy Program Coordinator**

Holly McCall is the Policy Program Coordinator at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). She works with policy programs centered around emerging technology, and provides operational support for the policy research manager. The policy team seeks to connect AI technology research and policy communities. Holly transferred to HAI from Stanford School of Engineering, Office of the Dean, and has worked in a variety of settings in the nonprofit and philanthropy world. She holds an M.A. in international relations from Florida State University and a B.A. in business administration from Andrews University.

**Stacy Peña, Director of Communications**

At Stanford HAI, Stacy is responsible for the institute's external communications through earned and owned channels. Prior to joining HAI in 2020, Stacy was a principal and co-founder of Rainmaker Communications, an integrated marketing firm where she served Apple, Cisco and numerous early stage companies and VC firms with strategic consulting. Before that, she managed media relations for the Consumer and Speech Systems Divisions of IBM. She also served as director of corporate communications at The Learning Company and worked as an account executive at a PR firm. Stacy holds a bachelor's degree in Rhetoric and Communication with a minor in English from the University of California, Davis.

**Christian Pinedo, Education Program Coordinator**

Christian Pinedo joined Stanford as an Education Program Coordinator with the Stanford Institute for Human-Centered Artificial Intelligence (HAI). in 2021. He works to support one of HAI's core missions: making AI education equitable. Coordinating with faculty and expert practitioners, Christian assists in the creation of multidisciplinary programs for both high-impact decision makers and emerging leaders. He collaborates with the diverse communities surrounding artificial intelligence to pursue cutting-edge research, create useful and responsible AI, and respond thoughtfully to the societal and ethical implications of global AI. He believes that the quality of any intellectual endeavor is improved when participants reflect diversity in the broadest sense, including gender, ethnic, and socioeconomic background, but also intellectual, cultural, and political perspectives. Prior to joining Stanford, Christian was an Education Program Manager at the TGR Foundation: A Tiger Woods Charity, and he worked on providing integrated STEM programs to students in underserved communities. Christian holds a B.A. in cognitive science from the University of California, San Diego.

**John Robichaux, Director of Education**

John Robichaux is the inaugural Director of Education at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). John is an award-winning executive and educator, with 25-plus years' expertise in advising, building, and growing high-impact organizations within the public, corporate, and philanthropic sectors. John has served in senior leadership positions at Harvard, Stanford, and Columbia universities, as well as a consultant and advisor to 200-plus organizations worldwide in the areas of strategic and executive leadership, organizational and policy design, change leadership, and social impact. John also founded and co-directed a large international NGO and nonprofit.

**Russell Wald, Director of Policy**

Russell Wald leads the policy team at Stanford HAI that advances the organization's engagement with U.S. and international governments and civil society organizations. In this leadership capacity, Wald sets the strategic vision for policy research, education, and outreach at HAI, and directs a dynamic team to equip policymakers with the knowledge and resources to take informed and meaningful actions on advancing AI with ethical and human-centered values. He is the co-author of various publications on AI including, *Building a National AI Research Resource (2021)*, *Enhancing International Cooperation in AI Research: The Case for a Multilateral AI Research Institute (2022)*, *The Centrality of Data and Compute for AI Innovation: A Blueprint for a National Research Cloud* (forthcoming: Notre Dame Journal of Emerging Technologies). He has held various policy program and government relations positions at Stanford University for nearly a decade. In 2014, he co-led the inaugural Stanford congressional boot camp, establishing a strong and effective tradition of educating policymakers at Stanford and enhancing the collaboration between governments and academic institutions.

**Madeline Wright, Communications and Events Coordinator**

Madeleine Wright joined Stanford as the Communications and Events Coordinator with the Stanford Institute for Human-Centered Artificial Intelligence (HAI) in 2022. In this role, she assists with event planning, website updates, gathering key engagement metrics, and newsletters. She holds an M.S. in Marketing from Santa Clara University and a B.A. in Economics and Communication Studies from Gonzaga University. Prior to Stanford HAI, she has worked in marketing and communication roles at non-profits, start-ups, and a local veterinary office. She also assists in a local wedding planning company.

**Daniel Zhang, Policy Research Manager**

Daniel Zhang is the Policy Research Manager at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). In this role, he develops and oversees HAI's policy research programs, including policy briefs, white papers, workshops, and responses to government requests for information. Previously, he was the manager of the AI Index program, where he led the development and research for the annual report that measures and evaluates the rapid pace of AI advancement. Before Stanford, Daniel worked on global AI talent flows and security risks at the Center for Security and Emerging Technology and public education policy at the Riley Institute Center for Education and Leadership. He holds an M.A. in security studies from Georgetown University, where he concentrated on technology policy, and a B.A. in politics and international affairs from Furman University.