

Depicting Innovation in Information Technology: Panel on Artificial Intelligence

Committee

Tom M. Mitchell

Chair

Tom Mitchell (NAE) is the Founders University Professor in the School of Computer Science at Carnegie Mellon University, where he founded the world's first academic Machine Learning Department. Mitchell's research explores machine learning algorithms, theory and applications, as well as the impact of AI on society. He has testified to the U.S. Congress several times on AI impacts on society, and he co-chaired the 2017 U.S. National Academy study on "Information Technology, Automation, and the U.S. Workforce." Mitchell advises a variety of young and old companies internationally on their AI product and business strategies, and his research has been featured in popular press from the New York Times, to CCTV (China's national television network), to CBS's 60 Minutes. He is a member of the U.S. National Academy of Engineering, a member of the American Academy of Arts and Sciences, and a Fellow and Past President of the Association for the Advancement of Artificial Intelligence (AAAI). In 2015 he was awarded an Honorary Doctor of Laws Degree from Dalhousie University for his contributions to machine learning and cognitive neuroscience, and in 2017 he received the 10-Year Outstanding Research Contributions Award from the Brain Informatics Conference for his research studying language processing in the human brain.

Eric Horvitz

Member

Eric Horvitz (NAE) is a technical fellow at Microsoft, where he serves as director of Microsoft Research Labs, including research centers in Redmond, Washington; Cambridge, Massachusetts; New York, New York; Montreal, Canada; Cambridge, UK; and Bangalore, India. He has pursued principles and applications of AI with contributions in machine learning, perception, natural language understanding, and decision making. His research centers on challenges with uses of AI amidst the complexities of the open world, including uses of probabilistic and decision-theoretic representations for reasoning and action; models of bounded rationality; and human-AI complementarity and coordination. His efforts and collaborations have led to fielded systems in healthcare, transportation, ecommerce, operating systems, and aerospace. He received the Feigenbaum Prize and the Allen Newell Prize for contributions to AI. He received the CHI Academy honor for his work at the intersection of AI and human-computer interaction. He has been elected a fellow of the National Academy of Engineering (NAE), the Association of Computing Machinery (ACM), Association for the Advancement of AI (AAAI), the American Association for the Advancement of Science (AAAS), the American Academy of Arts and Sciences, and the American Philosophical Society. He has served as president of the AAAI, and on advisory committees for the National Science Foundation, National Institutes of Health, President's Council of Advisors on Science and Technology, DARPA, and the Allen Institute for AI. Beyond technical work, he has pursued efforts and studies on the influences of AI on people and society, including issues around ethics, law, and safety. He chairs Microsoft's Aether committee on AI, effects, and ethics in engineering and research. He established the One Hundred Year Study on AI at Stanford University and co-founded the Partnership on AI. Eric received Ph.D. and M.D. degrees at Stanford University.

Odest C. Jenkins

Member

Odest Chadwicke (Chad) Jenkins is an associate professor of Computer Science and Engineering and a member of the Robotics Institute at the University of Michigan. He previously served on the faculty of Brown University in Computer Science (2004-15). His research addresses problems in interactive robotics and human-robot interaction, primarily focused on mobile manipulation, robot perception, and robot learning from demonstration. His research often intersects topics in computer vision, machine learning, and computer animation. Prof. Jenkins has been recognized as a Sloan Research Fellow and is a recipient of the Presidential Early Career Award for Scientists and Engineers (PECASE). His work has also been supported by Young Investigator awards from the Office of Naval Research (ONR), the Air Force Office of Scientific Research (AFOSR) and the National Science Foundation (NSF). Prof. Jenkins is currently serving as editor-in-chief for the ACM Transactions on Human-Robot Interaction. He is a senior member of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers. He is currently a member of the Defense Science Study Group (2018-2019). Prof. Jenkins earned his B.S. in computer science and mathematics at Alma College (1996), M.S. in computer science at Georgia Tech (1998), and Ph.D. in computer science at the University of Southern California (2003).

Fei-Fei Li

Member

Fei-Fei Li is the inaugural Sequoia Capital Professor in the Computer Science Department at Stanford University, and co-director of Stanford's Human-Centered AI Institute. 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. She joined Stanford in 2009 as an assistant professor. Prior to that, she was on faculty at Princeton University (2007-2009) and University of Illinois Urbana-Champaign (2005-2006). Dr. Li's main research areas are in machine learning; deep learning; computer vision; and cognitive and computational neuroscience. She has published nearly 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, etc. Dr. 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. She is co-founder and chairperson of the national non-profit AI4ALL aimed at increasing inclusion and diversity in AI education. Dr. Li is a keynote speaker at many academic or influential conferences, including the World Economics Forum, the Grace Hopper Conference 2017, and the TED2015 main conference. She is a fellow of ACM, 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. Dr. Fei-Fei Li obtained her B.A. degree in physics from Princeton in 1999 with High Honors, and her Ph.D. degree in electrical engineering from California Institute of Technology (Caltech) in 2005.

Daniela Rus

Member

Daniela Rus (NAE) is the Andrew and Erna Viterbi Professor of Electrical Engineering and Computer Science and director of the Computer Science and Artificial Intelligence Laboratory (CSAIL) at MIT. Rus's research interests are in robotics, mobile computing, and data science. Rus is a Class of 2002 MacArthur Fellow, a fellow of ACM, AAAI, and IEEE, and a member of the National Academy of Engineering, and the American Academy for Arts and Science. She earned her Ph.D. in computer science from Cornell University.

Bart Selman

Member

Bart Selman is a professor of Computer Science at Cornell University. He previously was at AT&T Bell Laboratories. His research interests include computational sustainability, efficient reasoning procedures, planning, knowledge representation, and connections between computer science and statistical physics. He has (co-)authored over 100 publications, including six best paper awards. His papers have appeared in venues spanning Nature, Science, Proceedings of the National Academies of Sciences, and a variety of conferences and journals in AI and Computer Science. He has received the Cornell Stephen Miles Excellence in Teaching Award, the Cornell Outstanding Educator Award, an NSF Career Award, and an Alfred P. Sloan Research Fellowship. He is a fellow of the American Association for Artificial Intelligence and a fellow of the American Association for the Advancement of Science.