media X

at Stanford University

Building Reciprocity: Curiosity and Learning in Humans and Machines

July 13, 14, 15, 2021

Welcome to the mediaX 2021 conference.

The existing environment critically influences the processes of decision-making and learning - each of which is essential for growth. Cultural expectations, stakeholder needs, and pre-existing conditions shape pathways for interactions between people and machines, as well as provide scaffolding opportunities for development.

Exploration, curiosity, and feedback fuel and guide development in humans, as well as in machines. For both this is an ongoing endeavor. Learning is rooted in what it means to be human. Machines and systems, increasingly required to continue a trajectory of learning, rely on patterns, sequences, consistencies, feedback, and new instruction for their improvement.

Over the three-day conference, mediaX thought leaders will share recent insights on important questions:

In what ways can technological augmentation, simulation, or communication enhance the reciprocity between human and machine learning?

Toward what reciprocal outcomes will we aspire for human and machine learning?

How will the assessment of 21st century human learning be like or unlike the assessment of learning in automated systems?

Thank you for joining us.

Martha G. Russell
Executive Director
mediaX at Stanford University

mediaX 2021 Conference Schedule

July 13, 2021 - 8:00am (Pacific)
Day1: EMPOWERMENT
Empowering Digital Instruction through Community and Context

8:00am: *The Influence of Culture, Community and Context on Learning*
Martha Russell, Executive Director mediaX at Stanford University

8:15am: *Panel, Designing Systems for Digital Instruction*
Tomás Nascimento, Senior Technician, SEST SENAT
Rebecca Bettencourt, Senior Workforce Development Manager, E.&J. Gallo Winery
Derek Li, Founder & Chief Education Technology Scientist, Squirrel Ai Learning

9:30am: Break

9:45am: *Inclusive Innovation for Developing Relevant Learning Assessments*
Jean-Claude Brizard, President and CEO, Digital Promise

mediaX 2021 Conference Schedule

July 14, 2021 - 1:00pm (Pacific)
Day2: DISCOVERY
Exploring Digital Discovery Strategies

1:00pm: *A Taxonomy for Curiosity in Humans and AI*
Nick Haber, Assistant Professor, Stanford Graduate School of Education

1:50pm: Break

2:00pm: *Panel, Limitations for Curiosity and Discovery in Open AI – GPT-3*
David Evans, Stanford Distinguished Visiting Scholar, President of David A. Evans LLC
Peter Norvig, Stanford Distinguished Visiting Scholar, Director of Research at Google Inc
Ed Hovy, Program Manager, Information Innovation Office, DARPA

3:00pm: *Awards*
mediaX Members, Presented by Martha Russell
NOVIM, Presented by Chuck House

mediaX 2021 Conference Schedule

July 15, 2021 - 5:00pm (Pacific)
Day3: FEEDBACK
Creating Mutually Beneficial Feedback Loops

5:00pm: *Leaky Abstractions for Designing AI Experiences*
Hari Subramonyam, Ph.D. Candidate, School of Information, University of Michigan

5:50pm: Break

6:00pm: *Panel, Teaching AIs to Provide Feedback to Humans*
Hirotsugu Kashimura, President, Amada AI Innovation Laboratory Inc
Ramya Malur Srinivasan, AI Researcher, Fujitsu Research of America
Stephanie Guamàn, Lead User Researcher, Facebook AI Team

7:10pm: *How It All Comes Together*
Martha Russell, Executive Director mediaX at Stanford University

Martha Russell, *The Influence of Culture, Community and Context on Learning*

Martha is Executive Director of mediaX at Stanford University and Senior Research Scholar with the Human Sciences Technology Advanced Research Institute at Stanford. Dr. Russell leads business alliances and interdisciplinary research for mediaX at Stanford University. Her north star principles focus on people and information technologies as intersecting vectors and maintain an unswerving dedication to the power of shared vision, Russell has developed planning/evaluation systems and has led operations for local, regional, national and international joint ventures that seek to optimize the influence of innovative technologies on talent pipelines, industry-government-university collaborations and service ecosystems.

Panel, *Designing Systems for Digital Instruction*
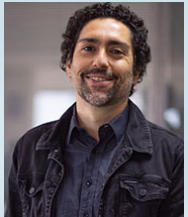
Tomás Nascimento is a senior technician with SEST SENAT in Brazil. He has worked on projects such as the acquisition of driving simulators, which included the development of innovative educational and technological proposals and the acquisition of more than 130 driving simulators throughout Brazil. In addition, he's done International Agreements with Natural Resources Canada – NRC and the Environmental Protection Agency – EPA in order to offer courses with international certification by the Smartway (USA) and Fleetsmart (Canada) programs.

Derek Li is the Founder and Chief Education Technology Scientist at Squirrel Ai Learning, the top 20 AI-Unicorn in China. He is the first-prize winner of Chinese Mathematical Olympiad. He was selected into the most prestigious Shanghai Jiaotong University's Computer Science Experimental Program in high school. As a serial entrepreneur, he co-founded the first education company listed in China's A-shares market. He was awarded "the Top 30 AI-Entrepreneur in China."

Panel, *Designing Systems for Digital Instruction*

Rebecca Bettencourt serves as a Senior Workforce Development Manager for E. & J. Gallo Winery, where she has the responsibility for developing and improving educational and training programs within the Operations and Supply Chain organization. Her role encompasses both supporting the training and development needs of current team members and helping to shape the future workforce through the local education talent pipeline. She has been instrumental in developing these pipelines and in the creation of pre-internship, internship programs and mentorship programs for different career technical pathways


Jean-Claude Brizard, *Inclusive Innovation for Developing Relevant Learning Assessments*
Jean-Claude is President and CEO of Digital Promise, a global, nonpartisan, nonprofit organization focused on accelerating innovation in education. He is former Senior Advisor and Deputy Director in US Programs at the Bill and Melinda Gates Foundation where he focused on PK-16 education across five communities in four states. He also led several strategies to help close the racial and economic achievement gaps in Washington State's educational system as well as support the growth and sustainability of the state's public charter school sector. Mr. Brizard's experience also includes a 21-year career as an educator and administrator with the NYC Department of Education. He served as a Regional Superintendent, supervising more than 100 schools in the Borough of Brooklyn and he also served as the system's Executive Director for its 400 secondary schools.
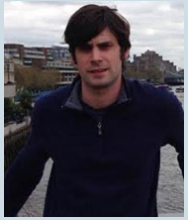
Nick Haber, *A Taxonomy for Curiosity in Humans and AI*

Nick is an Assistant Professor at the Stanford Graduate School of Education, and by courtesy, Computer Science. After receiving his PhD in mathematics on Partial Differential Equation theory, he worked on Sension, a company that applied computer vision to online education. He then co-founded the Autism Glass Project at Stanford, a research effort that employs wearable technology and computer vision in a tool for children with autism. Aside from such work on learning and therapeutic tools, he and his research group develop artificial intelligence systems meant to mimic and model the ways people learn early in life, exploring their environments through play, social interaction, and curiosity.

Panel, *Limitations for Curiosity and Discovery in Open AI – GPT-3*

David Evans, a Stanford Distinguished Visiting Scholar, is the President of David A. Evans LLC. He was the founder, president, CEO and chief scientist of JustSystems Evans Research, Inc., and also a chief scientist and director for JustSystems Corp. in Japan. Dr. Evans developed the CLARIT system, which pioneered the use of NLP-based language analysis to support automatic text indexing, retrieval, filtering, categorization, summarization, extraction, and information organization (all within a single process). Today, CLARIT is the core technology in JustSystems's ConceptBase product and has become the leading enterprise knowledge management software suite in Japan (with over 50% market share).

Panel, *Limitations for Curiosity and Discovery in Open AI – GPT-3*

Peter Norvig, a Stanford Distinguished Visiting Scholar, is a Director of Research at Google Inc; previously he directed Google's core search algorithms group. He is co-author of Artificial Intelligence: A Modern Approach, the leading textbook in the field, and 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. He is a fellow of the AAAI, ACM, California Academy of Science and American Academy of Arts & Sciences.

Ed Hovy is a research professor at the Language Technologies Institute in the School of Computer Science at Carnegie Mellon University. Starting in 2020 he served a term as Program Manager in DARPA's Information Innovation Office (I2O), iwhere he managed programs in Natural Language Technology and Data Analytics totaling over $30M per year. His research focuses on computational semantics of language and addresses various areas in Natural Language Processing and Data Analytics.

Awards: *mediaX Members: Celebrating 5 Years of Discovery & Collaboration:*
AISIN, Qitian, SEST SENAT

Awards: *NOVIM: Alexandra Jane Noble Epiphany Awards*

Science Awareness: Dr. Vinay Gupta

Science Inspiration: Dr. Amanda Randles & Dr. Muath Bishawi

Science Courage: Dr. Anthony Fauci

Science Stewardship: Bill & Melinda Gates Foundation

Science Discovery: Mark Anderson

Science for Society: Marian Croak & Eric Yuan

Science Impact: Dr. Katalin Karikó & Dr. Drew Weissman

Hari Subramonyam, *The Influence of Culture, Community and Context on Learning*

Hari is a Ph.D. candidate in the School of Information at the University of Michigan. His research focuses on ways to operationalize the vision of human-centered AI. By combining technical HCI work with qualitative studies of AI software development in practice, Hari brings multiple perspectives to bear on the cross-disciplinary problem of HAI. His work has received multiple Best Paper awards at top HCI conferences.

Panel, *Teaching AIs to Provide Feedback to Humans*

Hirotsugu Kashimura is the President of Amada AI Innovation Laboratory Inc. Hiro previously served as the Director of the research center, Director of the US research subsidiary, and the representative of the Singapore research branch at a leading global office equipment company. Hiro has consistently engaged in research and new business development throughout his career. His areas of expertise include electronic devices, brain function modeling, human-AI (artificial intelligence) interactions, and UX.

Ramya Malur Srinivasan is an AI researcher in Fujitsu Research of America, wherein she is a member of the AI Ethics Research Center. Ramya's background is in the areas of computer vision, machine learning, explainable AI, and AI ethics; with some of her research spanning diverse applications such as healthcare and finance.

Stephanie Guamàn has been untangling the complexities of technology since 2005. She has experience doing design research with people of all walks of life, from patients to executives to engineers, among others. Stephanie collaborates closely with her team to craft a superior customer experience that humanizes technology. Stephanie is currently a Lead user researcher on the Facebook AI team focused on relevance.

Thank you for attending the mediaX 2021 Conference

A special thanks to the members of the mediaX community whose contributions made this conference possible. We look forward to seeing you again for our Fall Symposium.

mediaX at Stanford University is the affiliate program of the H-STAR Institute extending from the Stanford Graduate School of Education to over two dozen interdisciplinary labs at Stanford. mediaX brings innovative companies and researchers together to explore thoughtful uses of information technology across the industries of tomorrow.

For more information, please visit mediax.stanford.edu

mediaX Team

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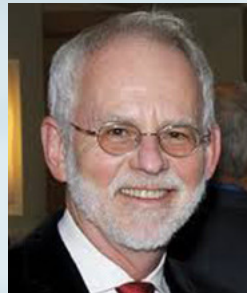
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