

Cambridge-Yerevan Sister City Association (CYSCA) Hosts Artificial Intelligence Panel

The Cambridge-Yerevan Sister City Association (CYSCA), in partnership with the National Association for Armenian Studies and Research (NAASR) and the Tufts Armenian Club, presented a panel discussion, “Artificial Intelligence: Getting Smarter Every Day”, to a standing-room only crowd at Tufts on Tuesday, April 16th. Graciously moderated by Aram Adourian of Flagship Pioneering, the panel included: John W. Fisher III, Senior Research Scientist in the Computer Science and Artificial Intelligence Laboratory at MIT; Gevorg Grigoryan, associate professor at Dartmouth College and Chief Technology Officer at VL56, Inc., a new privately-held, early-stage biotechnology company investigating computational protein design; André Rocha, Venture Capitalist at Glasswing Ventures; and, as a special guest from Armenia, Vazgen Hakobjanyan, co-founder of Teamable Software and partner at Smartgate VC. Each panelist gave a brief presentation before a lengthy and animated question and answer session, followed by informal conversation over a hearty spread of dolma, simit, and halva.

In his research at MIT, Dr. Fisher applies machine learning techniques to help humans more easily make the approximately 35,000 decisions we’re presented with daily. Machine learning involves training computer algorithms to make decisions and process informations more quickly than humans. As an example, Dr. Fisher cited his own research on rural electrification in developing nations, where the central and regional governments might not know with certainty what homes are hooked up to the grid. By training a computer algorithm to identify signs of a house with electric power from satellite imagery - for instance, if rechargeable electric scooters are frequently parked around it - the program can create its own estimated electrification map much more quickly and efficiently than a team of humans.

Dr. Hakobjanyan presented a range of the exciting AI-related research and business ventures currently taking place in Armenia, primarily in Yerevan. These include Superannotate.AI, specializing in semantic detection for image annotation. For countless technologies, such as self-driving cars, it’s vital to rapidly understand what information is contained in an image (for self-driving cars, distinguishing between pedestrians and cyclists, for instance) and react accordingly. He also discussed 2hz, an AI-enabled noise-cancelling product to remove background noise from a call and focus on only the voice; with such technology one could make a business call from a bar, and the listener would hear none of the background noise. Dr. Hakobjanyan emphasized that many of these ventures are working with world-famous partners and clients, have published papers in leading journals, and presented at prestigious conferences, and that it is an excellent time to invest in these companies, and in the tech industry in Armenia in general.

Dr. Grigoryan, in his private work and teaching at Dartmouth College, uses computers and AI technology to study proteins. With combinations of a mere 20 amino acid building blocks, proteins can nevertheless show incredible diversity in form and function. For instance, a “small” protein of 100 amino acid blocks has 10 to the power of 130 possible arrangements, a number several times greater than the entire number of atoms in the universe. Using technology and resources such as the Protein Data Bank, an online repository of protein information, Dr. Grigoryan and his team have generated novel new proteins not found in nature, with a wide range of applications.

Mr. Rocha's venture capital firm specializes in funding projects such as those discussed in this panel. Having invested in these projects for more than a decade, they specialize in funding businesses leveraging AI to solve problems in the real world, with applications from robotics to drones to cyber security. Of greatest importance to them in evaluating new technologies and programs is what makes it different from other similar products, and how it can be applied to specific enterprise applications - for instance, how can marketing firms use AI to create better ads that people actually like being shown? Regardless of the specific product, the investment landscape is constantly shifting, as key technological enablers of this work are continuously improving.

Attendees to the event raised a variety of fascinating questions for the panelists to grapple with, including: how can we keep in mind the ethical aspects of these technologies, to ensure that they are used to better humanity? How must we consider the gap between how different generations feel about AI and private industry gathering of personal data? How do we address the potential for AI and technological advancement to take away jobs from millions of people, such as tellers at a bank? And finally, how can we defend ourselves and our society against "weaponized" AI, for instance falsely-generated speech created by programs to make it appear someone has said things that they truly did not? The questions and conversations generated by this panel could likely have continued for several hours longer.