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Immediate Release

Researchers will shine light into the black box of artificial intelligence in medicine

Multidisciplinary team explores how new tech impacts healthcare workflow

BROOKLYN, New York, Tuesday, September 3, 2019 – As artificial intelligence and data science enable computer tools to make predictions previously made by skilled humans, a different knowledge gap looms: These black-box tools often offer highly trained medical personnel little understanding of their inner workings. Equally little understood: how deploying these tools affects experts' work practices, perceptions of the value of work, and the expert-patient relationship.

Researchers from New York University and Georgia Tech are conducting foundational research to understand and improve expert work in an age of data-intensive enhanced cognition, especially in healthcare, where new technologies are rapidly being deployed. The National Science Foundation recently awarded the team $2 million for the four-year project, which is expected to transform the future of expert work through a combined redesign of technology, workflow, and interactions.

“Better understanding of how new technologies impact healthcare expert work will lead to more effective use of healthcare technologies, a healthier and better-informed population, and the more efficient use of human capabilities in restructured healthcare occupations,” said NYU Tandon School of Engineering Professor of Technology Management and Innovation Oded Nov, the principal investigator. “We plan to help design cognition-augmenting expert advice such that healthcare providers could spend less time on repetitive tasks and more time on value-adding, meaningful activities.”

The multidisciplinary team also includes NYU Tandon Professor of Mechanical and Aerospace Engineering and Biomedical Engineering Maurizio Porfiri; Yindalon Aphinyanaphongs, director of the predictive analytics unit and an assistant professor at the NYU School of Medicine; Yvonne Lui, a neuroradiologist, associate professor, and associate chair for AI at the NYU School of Medicine Radiology Department; Devin Mann, an associate professor and senior director for informatics

innovation at the NYU Medical Center; J.R. Rizzo, an assistant professor of rehabilitation medicine at NYU School of Medicine who also holds faculty appointments in both the Biomedical Engineering and Mechanical and Aerospace Engineering Departments at NYU Tandon; Batia Mishan Wiesenfeld, the Andre J. L. Koo Professor of Management at NYU Stern School of Business; and Mark Riedl, an associate professor of computer science at the Georgia Institute of Technology School of Interactive Computing.

"This project exemplifies how collaborations among NYU Tandon's faculty members and others from across the University lead to work that has tremendous impact on our health," said Dean Jelena Kovačević. "Multidisciplinary teams make the greatest strides, and this one – with researchers active in computer science, human-computer interaction, dynamical systems, and organizational behavior working alongside medical researchers and clinicians – will undoubtedly discover new approaches to measuring the benefits and drawbacks of cognition-augmented interactions. I know my counterparts at NYU Stern and NYU School of Medicine join me in congratulating the investigators on their NSF grant and thanking them for helping make our University a major hub of collaborative research."

About the New York University Tandon School of Engineering

The NYU Tandon School of Engineering dates to 1854, the founding date for both the New York University School of Civil Engineering and Architecture and the Brooklyn Collegiate and Polytechnic Institute (widely known as Brooklyn Poly). A January 2014 merger created a comprehensive school of education and research in engineering and applied sciences, rooted in a tradition of invention and entrepreneurship and dedicated to furthering technology in service to society. In addition to its main location in Brooklyn, NYU Tandon collaborates with other schools within NYU, one of the country's foremost private research universities, and is closely connected to engineering programs at NYU Abu Dhabi and NYU Shanghai. It operates Future Labs focused on start-up businesses in downtown Manhattan and Brooklyn and an award-winning online graduate program. For more information, visit http://engineering.nyu.edu.

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