UNIVERSITY OF CENTRAL FLORIDA | ORLANDO

College of Engineering and Computer Science

FACULTY RESEARCH TALKS

LISTEN. LEARN. COLLABORATE.

Zoom talk | Friday, Aug. 14, 2020 | Noon to 1 p.m.

PRESENTER 1:

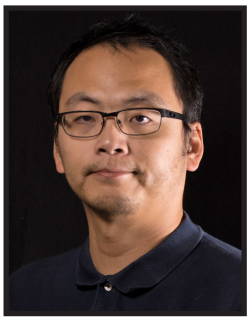
MICHAEL GEORGIOPOULOS

Pegasus Professor, Electrical and Computer Engineering, and Dean, UCF College of Engineering and Computer Science

CECS Task Force Guidelines for Fall 2020 College Reopening

A taskforce of faculty, staff and students was charged with applying UCF guidelines to determine reopening procedures that prioritize safety of all stakeholders, while keeping true to the college's mission of delivering quality education and advancing the state of the art in its disciplines. The group spent a significant amount of time and considered input from many parties to develop safety protocols for students, faculty and staff.
Dr. Georgiopoulos will share taskforce guidelines, solicit questions from faculty and staff, and provide needed answers, when these answers are available, succinct and clear.

Dr. Georgiopoulos received his diploma in electrical engineering from National Technical University of Athens, and his MS and Ph.D. in electrical engineering from the University of Connecticut (UConn). His research expertise is in machine learning with special emphasis on neural network algorithms and related applications, where he has published, received funding support, and served as associate editor of premier neural networks journals. He was inducted to the UConn Academy of Engineering in 2018. Dr. Georgiopoulos has a strong affinity towards programs that enhance STEM student experiences and help them discover their professional pathway, including YES, FLIT-PATH and EXCEL, which improved the graduation rate of STEM students by more than 50 percent.



PRESENTER 2:

QIUSHI FU

Assistant Professor, Mechanical and Aerospace Engineering, Biionix Cluster

Understanding Neuromotor Control of Human Hands for Restoring and Enhancing Manual Dexterity

The human hand is a unique sensorimotor system with unparalleled versatility. In this talk, Dr. Fu will discuss the ongoing research projects that investigate the neural mechanisms underlying manual dexterity and how to design interfaces and machines that help restore and enhance hand functions. These topics include neural dynamics of grasping, sensorimotor learning with hand exercises and virtual-reality based human-in-the-loop optimization of prosthesis.

Dr. Fu's laboratory focuses on the neural control of human upper extremities using interdisciplinary approaches such as robotics, virtual reality and neural imaging. His research on human manual dexterity has broad applications in brain-machine interfaces, neurorehabilitation and assistive devices. He has developed two graduate courses for the biomedical engineering programs at UCF. Before joining UCF in 2018, Dr. Fu was a research professor at Arizona State University. He received his Ph.D. from Arizona State University, MS from University at Buffalo, and BS from Tsinghua University. His research has been supported by the National Institutes of Health and DARPA.

ZOOM LINK: https://bit.ly/35unuVe | QUESTIONS? Email Jennifer.Sutton@ucf.edu

For more information, and to see previous talks, visit www.cecs.ucf.edu/faculty-research-talks

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PRESENTER 3:
YANJIE FU
Assistant Professor,
Computer Science

Bridging the Gap Between Structured Knowledge and Trusted AI in Spatiotemporal and Graph Data

In this talk, Dr. Fu will discuss how his group leverages data and model structured knowledge for trusted machine learning in spatial, sequence and graph data. He will discuss three projects: deep spatiotemporal representation learning; interactive reinforcement learning for automated data mining; and privacy-aware machine learning for edge sensing. Dr. Fu will also cover other ongoing preliminary studies.

Dr Fu's research goal is to develop algorithms and tools to answer how machine learning approaches alleviate information heterogeneity, information dynamics, and unstructured information; and what role modeling structures play in exploring the correlations among pattern-buried data. He also investigates how the developed algorithms can be applied for real world problems, including mobile, transportation, power, IoT and education analytics. Before joining UCF, Dr. Fu was an assistant professor at Missouri University of Science and Technology and conducted research for industry, including at IBM Thomas J. Watson Research Center and Microsoft Research Asia. He received his Ph.D. from Rutgers University in 2016.

PRESENTER 4:
NAVEEN ELURU
Professor,
Civil, Environmental
and Construction
Engineering

Employing Micro-Economic Theory and Behavior Considerations for Understanding and Predicting Using Data

Machine learning and deep learning approaches for data analytics have significantly improved the accuracy of prediction. However, there is inherent value in understanding the behavioral and micro-economic underpinnings that govern decision makers' outcome processes. In this talk, Dr. Eluru will present new econometric formulations developed in his research group for different kinds of variables (continuous, categorical and multiple set). Example applications in the context of connected and autonomous vehicle technology and emerging modes of transportation will be discussed.

Dr. Eluru leads the Transportation Econometric Modelling Group at UCF. His research is geared toward the development of choice models that allow us to better understand the behavioral patterns involved in decision processes. Dr. Eluru has published 120 journal articles in inter-disciplinary fields including transportation planning, transportation safety, land-use modeling, public health and environmental sciences. His research has received funding from the Federal Highway Administration, National Science Foundation, National Cooperative Highway Research Program, Florida Department of Transportation, U.S. Department of Transportation and Canadian Institute of Health Research.

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