How Research in the Cloud Enables New Approaches: Microsoft Azure, Research and Supporting Researchers

Cloud-based resources are enabling new and different approaches to computationally-based research. Advanced technology, extended collaboration and “unlimited” resources are enabling approaches to deliver science. This talk will discuss some of the benefits, risks and considerations for leveraging cloud for research. Examples from recent experiences will be shared. Additionally, the talk will discuss Microsoft Research and some of the programs available to support researchers.

Rick Friedman is the Research Industry Executive for Microsoft’s US EDU team. He has over 20 years’ experience partnering with researchers to leverage the use of computational technology to advance science. Rick joined Microsoft through the acquisition of Cycle Computing, the pioneer in using public cloud for research computing workloads. Prior to joining Cycle, Rick was part of the HPC team at Dell, and held numerous leadership roles in marketing, solutions and product management for companies including Terascale, Scali, Phase Forward (Oracle) and Network Engines. Deep down though, he is still really an engineer with a BSEE from the University of Pennsylvania, with experience in semiconductor design, networking and servers.
Cross-Cultural Privacy Differences

Privacy has become a global issue in recent years. As different countries have varying cultures, norms, and legal systems, users in different countries manage their privacy differently when using technologies. In this talk, Dr. Li will introduce her research on cross-cultural privacy differences. Specifically, she will talk about how the fundamental conceptualization of privacy differs between cultures and how the specific levels, patterns and mechanisms of privacy attitudes and behaviors differ between cultures.

Dr. Li is an assistant professor in the School of Modeling, Simulation and Training and a faculty member in the Cyber Security and Privacy Cluster. She received her Ph.D. in information and computer sciences from the University of California, Irvine and M.S. in information management from Syracuse University. Her research lies at the intersection of human–computer interaction and privacy. She is interested in understanding users’ privacy attitudes and behaviors in the interaction with technologies, and exploring better privacy designs to support users’ privacy management.

Multiscale Computational Fluid Dynamics for Treatment Planning in Congenital Heart Disease

This talk will share bioengineering research on computational fluid dynamics (CFD) and multiscale methods for cardiovascular modeling, with applications to treatment planning for congenital heart disease. Dr. Kassab will discuss the design of a self-powered Fontan circulation, the hemodynamics of shunt size and placement in the hybrid Norwood palliation stage I palliation for hypoplastic left heart syndrome and the hemodynamics of a novel hybrid comprehensive stage II operation pioneered at Arnold Palmer Children’s Hospital. He will also share a current American Heart Association funded study utilizing multi-scale CFD modeling and shape optimization for the design of left ventricular outflow graft implantation aimed at reducing stroke due to thromboembolic event in the great vessels.

Dr. Kassab joined UCF in 1991 and is the director of Biomedical Engineering and co-director of the Medical Engineering Dual Degree program. He is a fellow of the American Society of Mechanical Engineers and the American Institute of Medical and Biological Engineers. He has more than 30 years of research in numerical methods and has contributed to the development of the boundary element method, meshless methods and inverse problems. He has published more than 350 papers and books, and edited more than 10 conference proceedings. He is editor of Engineering Analysis with Boundary Elements. Dr. Kassab’s research has been funded by the NSF, NASA, Siemens, Arnold Palmer Hospital and the International Hip Dysplasia Institute, as well as local industry.