DEPARTMENT OF COMPUTER SCIENCE

TEXAS TECH
Whitacre College of Engineering

When Computer Science Meets Media & Communication: Designing Diffusion Engines for the Uptake of Computing Innovations

Kerk F. Kee, Ph.D.
Texas Tech University
Tuesday, September 23, 2025
3:30 p.m.
TFPETR 110

Abstract: As computer science continues to expand its applications to multidisciplinary domains, a viable partnership is with media and communication. In this talk, Kee provides one example of such partnership, via an overview of how he has been collaborating with computer scientists at various universities (i.e., Cornell University, University of Southern California, University of North Carolina, Chapel Hill, Indiana University, University of Utah, University of Notre Dame, University of Missouri- Columbia) via the "diffusion of innovations" theory. The term "diffusion" refers to the spread/spreading of something new; and an "innovation" can be material (i.e., a new AI tool, a new behavior, a new practice) or informational (i.e., a new piece of information, an idea, a meme). Kee will share examples of his collaborations with computer scientists on informational diffusion research in the area of computational communication using social media data. He will also discuss his collaborations with computer scientists on studying the role of usability/user experience in the adoption of an AI chatbot for medical professionals, as well as the role of community of practice behind the adoption of cyberinfrastructure in big science, which have resulted in outcomes in ACM/IEEE venues and NSF-funded efforts. Computer science advances when novel systems are not only built but adopted at scale. The purpose of this talk is to stimulate possible interdisciplinary collaborations between computer science as well as media and communication at TTU through creative ideas.

Bio: Kerk F. Kee (Ph.D., University of Texas at Austin) is the Virginia & Choc Hutcheson Professor in Mass Communication at Texas Tech University. His research focuses on the adoption of emerging technologies (i.e., AI, cyberinfrastructure, social media) in science organizations, the dissemination of health interventions (i.e., cancer screening, measles vaccine, workplace safety protocols) in cultural communities, and the spread of new information (i.e., news of mass shooting, political protests, natural disasters) on social media in modern society. Trained in both engineering (undergraduate) and communication (graduate), his research has been funded by the National Science Foundation (including an NSF CAREER grant in 2015), Academy of Sciences, Bill & Melinda Gates Foundation, and Robert Wood Johnson Foundation, amounting to over $13M in external funding. His research has appeared in computer science journals such as ACM Computing Surveys, IEEE Transactions on Human-Machine Systems, and Future Generation Computer Systems, as well as communication journals such as Journal of Computer-Mediated Communication, Communication Research, and New Media & Society. His research has been cited more than 8,500 times according to Google Scholar.