

Vehicles as a Service (VaaS): The Convergence of Communications, Computing, Storage and Intelligence (CCSI)

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Connected vehicles or self-driving cars have attracted significant attention in the last few years and will change the way people conduct their daily life. Intensive research activities have been conducted not only on collision avoidance and safe driving, but also for various kinds of sensing and communications for IoT applications. Imagine if each vehicle is equipped with powerful capability of communications, computing, storage and intelligence (CCSI capability), vehicles roaming around a city will automatically form a dynamic web of sensing, processing, communications, computing, and intelligence harvesting for intelligent decision making to improve people's quality of life.

In this talk, the speaker will discuss various related problems and design challenges with this vision and present novel collaborative system architectures to leverage connected vehicles for various kinds of smart operations and provide cost-effective solutions to smart city design.

Speaker's Biography

Dr. Yuguang "Michael" Fang received MS degree from Qufu Normal University, Shandong, China in 1987, PhD degree from Case Western Reserve University in 1994 and PhD degree from Boston University in 1997. He was an assistant professor in Department of Electrical and Computer Engineering at New Jersey Institute of Technology from 1998 to 2000. He then joined the Department of Electrical and Computer Engineering at University of Florida in 2000 as an assistant professor, then was promoted to an associate professor in 2003 and a full professor in 2005, and has been a distinguished professor since 2019. He held a University of Florida Research Foundation (UFRF) Professorship (2006-2009, 2017-2020), a University of Florida Term Professorship (2017-2019) and Changjiang Scholar Chair Professorship awarded by the Ministry of Education of China (is currently affiliated with Dalian Maritime University).

Dr. Fang received the US National Science Foundation Career Award in 2001 and the Office of Naval Research Young Investigator Award in 2002, 2018 IEEE Vehicular Technology Outstanding Service Award, 2015 IEEE Communications Society CISTC Technical Recognition Award, 2014 IEEE Communications Society WTC Recognition

Award, and multiple Best Paper Awards from IEEE Globecom (2015, 2011 and 2002) and IEEE ICNP (2006). He has also received the 2019 ECE Faculty Excellence Award in Research, 2010-2011 UF Doctoral Dissertation Advisor/Mentoring Award, 2011 Florida Blue Key/UF Homecoming Distinguished Faculty Award, and the 2009 UF College of Engineering Faculty Mentoring Award. He was the Editor-in-Chief of IEEE Transactions on Vehicular Technology (2013-2017), the Editor-in-Chief of IEEE Wireless Communications (2009-2012), and serves/served on several editorial boards of journals including the Proceedings of the IEEE (2018-present), ACM Computing Surveys (2017-present), IEEE Transactions on Mobile Computing (2003-2008, 2011-2016), IEEE Transactions on Communications (2000-2011), and IEEE Transactions on Wireless Communications (2002-2009). He has been actively participating in conference organizations such as serving as the Technical Program Co-Chair for IEEE INFOCOM'2014 and the Technical Program Vice-Chair for IEEE INFOCOM'2005. He is the Director of Magazines of IEEE Communications Society and a Distinguished Lecturer of IEEE Vehicular Technology. He is a fellow of the IEEE (2008) and a fellow of the American Association for the Advancement of Science (AAAS) (2015).