COGNITIVE BATTERY MANAGEMENT WITH A CYBER-PHYSICAL APPROACH

presented by

Liang He
University of Michigan at Ann Arbor

Abstract:
Batteries are widely used in various systems such as electric vehicles, aircraft, and mobile devices including smartphones and tablets. Efficient battery management protocols are highly demanded for system optimization because of the non-linear battery properties and the limited energy storage capacity. In this talk, I will introduce our recent explorations in battery management with a cyber-physical approach — improving battery management in the cyber space based on their unique physical properties and with users in the loop. Specifically, I will explain battery’s relaxation effect and show how it can be exploited for system optimization. I will also highlight several future investigation directions on battery-involved cyber-physical systems such as new energy systems, vehicle systems, and smart cities.

Bio:
Dr. Liang He is currently a research fellow at The University of Michigan, Ann Arbor, MI, USA. He worked as a research scientist at Singapore University of Technology and Design during 2011-2014, and a research assistant at University of Victoria, Canada, during 2009-2011. His research interests mainly focus on cyber-physical systems, cognitive battery management, mobile computing, and internet of things. He has published over 50 research papers at premier conferences such as ACM MobiSys, ACM MobiHoc, IEEE RTSS, IEEE INFOCOM, and ACM/IEEE ICCPS, and journals such as IEEE TMC, IEEE TC, IEEE TSG, and ACM TCPS. He is the recipient of the best paper awards of GLOBECOM’11, WCSP’11, and QShine’14, and a best paper candidate of GLOBECOM’14. He also served as TPC members for over 20 international conferences and workshops.

Thursday, April 6, 2017 @ 11:00 am  McAdams Hall, Room 110E

For more information on all upcoming School of Computing Spring 2017 Seminars, please visit
www.cs.clemson.edu/socseminar/s2017/