SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
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Area: Communications & Networks

Host: Assoc Prof Tham Chen Khong

TOPIC	**:**	**Joint Sensing and Processing Resource Allocation in Vehicular Ad-Hoc Networks**
SPEAKER	**:**	**Mr Rajarshi Chattopadhyay** **Graduate student, ECE Dept, NUS**
DATE	**:**	**30 June 2020, Tuesday**
TIME	**:**	**3pm to 4pm**
WEBINAR	**:**	**https://us04web.zoom.us/j/77677916894?pwd=WUk4aVdSMERFSnhib204dkNSMnNBZz09** **Meeting ID: 776 7791 6894** **Password: 5ZZdXR**

ABSTRACT

The performance of smart vehicle (SV) applications like autonomous driving and in-vehicle augmented reality based traffic information system depends on the Field of View (FoV) and the timely processing of the SVs sensor data. Vehicular networking (VN) technology can enhance the performance of these applications by enabling a SV to access the sensing and processing capabilities of other neighbouring SVs. The processing and storage capacity of a SV is limited compared to cloud servers and the communication link between two SVs is unreliable due to their mobility and the nature of wireless channels. Hence, developing efficient processing and sensing schemes for SVs and VNs can help in optimizing the performance of SV applications. In this work, we propose Contextual Bandits (CB), Markov decision process (MDP) and deep Q-network (DQN) based sensing and processing schemes for VNs. Simulation results show that the proposed schemes outperform the baseline schemes in a variety of scenarios.

BIOGRAPHY

Rajarshi Chattopadhyay is a PhD student at the Department of Electrical and Computer Engineering of the National University of Singapore (NUS). He obtained his B.Tech. degree in Electronics and Communication Engineering from the Indian Institute of Technology Guwahati, India, in 2015. His research interests include ad-hoc mobile cloud computing, edge computing and data analytics.