***SEMINAR ANNOUNCEMENT***

**DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**
**Faculty of Engineering**
Website: https://www.eng.nus.edu.sg/ece/

***Area: Communications & Network***

***Host: Assoc Prof Bharadwaj Veeravalli***

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| **TOPIC** | : | **The Application Of Machine Learning Models To Predict Emission Costs For Urban Transportation In Smart Cities** |
| **SPEAKER** | : | **Mrs Eda Koksal**<br>**Graduate Student, ECE Dept, NUS** |
| **DATE** | : | **Friday, 12 March 2021** |
| **TIME** | : | **10.00AM to 11.00AM** |
| **WEBINAR** | : | **Join Zoom Meeting**<br>**https://nus-sg.zoom.us/j/84313407781?pwd=bTcvOVl0b2FWSnZnWnlZempKWnBWZz09**<br><br>**Meeting ID: 843 1340 7781**<br>**Password: 284744** |


**ABSTRACT**

Climate change is a global challenge and it needs a global solution. The Paris Agreement entered into force in November 2016 and it is a legally binding international agreement on climate change. Singapore ratified the agreement in September 2016 and guaranteed to reduce Emissions Intensity by 36% from 2005 levels by 2030. The major source of emission is the cities and as one of the necessary infrastructures for cities, transportation contributes about 14% of the total emissions in Singapore. In order to reduce emissions, smart cities play a crucial role which leads to a change of the conventional transportation systems. This research proposes machine learning models to predict the total emission cost of the buses in Singapore. By using the GPS records of 1000 private buses and the COPERT model, the essential features are extracted to predict the emission cost. The performance of emission cost estimation of three modeling techniques, MLP, RF, and Light GBM, are compared. Results demonstrated that the model could predict the emission values with 97% accuracy when the Light GBM regression algorithm is used.


**BIOGRAPHY**

Mrs. Eda KOKSAL AHMED received B.S. degree in computer engineering from Middle East Technical University (METU) Northern Cyprus Campus, in 2012 and M.S degree from METU in 2016. She is currently pursuing the Ph. D. degree in electrical and computer engineering at National University of Singapore (NUS). Her research interest includes machine learning, urban transport scheduling, and security.