The Electrical and Computer Engineering Program presents
ECEN Seminar Series

Advances in Smart Mobility: State of the Art and Challenges

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Major advances recently achieved in the fields of machine learning, big data analytics, and cloud computing have opened up new market opportunities in strategic areas such as in transportation, health, energy and urban planning. These are critical components for building sustainable cities of the future better known as smart cities. “Smart mobility” represents a corner stone and an integral part of the smart city concept. It deals with the design of more efficient, more intelligent, and safer transportation and communication systems that are better suited and more adapted to latest advances in information and communication technologies, including 5G networks and Internet of things: IOT. It is expected that most modes of transportation will become soon connected to the cloud and to IoT infrastructure. With more than a billion vehicles on the roads today, a number expected to increase by 250% in 2050, the design of highly efficient and safer transportation systems is becoming a necessity. This is a major challenge for car manufacturers, road infrastructure planners, and transportation policy makers. The talk highlights newly developed technologies allowing for the design of next generation mobility systems. These enabling technologies represent the core of the smart mobility concept and have become prevalent thanks to spectacular advances made in the fields of machine intelligence, smart devices, sensor networks, big data analytics and Internet of things. They allow for the design of more intelligent vehicles, permit safer travel journeys and enable the design of more effective and smarter transportation networks, while significantly reducing traffic congestion, road fatalities and injuries, fuel consumption and pollution. The talk also outlines recent research work carried out at the Center for Pattern Analysis and Machine Intelligence and highlights challenges toward achieving short and long-term goals for building more livable and more sustainable cities of the future.