FLORIDA ATLANTIC UNIVERSITY

The Institute for Sensing and Embedded Network Systems Engineering

Proudly Presents

Taming the Environment in Wireless Sensor Networks

After building a virtual fence system, Dr. Anish Arora and his team deployed the system for human and wildlife protection in a tiger reserve in India, as well as a rhinoceros park in South Africa. The system makes it possible to detect poachers, tigers, and rhinos, with classification based on micropower radar and mote-scale computers. These tiny devices are in turn part of a battery-powered wireless mesh network that reaches ranger base stations. Dr. Arora will detail how data-driven machine learning has been used to achieve acceptably precise sensing. He will give an overview of the challenges in achieving accuracy, especially when the data sets are relatively limited, and in achieving robustness across different environments. There is substantial spatial and temporal variability where the system operates. He will also discuss his team's approach to network development that is tending away from planned deployment to "as-you-go" deployment.

Speaker

Anish Arora is a Professor of Computer Science and Engineering at the Ohio State University and a founder of the Samraksh Company, which is commercializing wireless sensor networks. Arora is a Fellow of the IEEE, based on his work on scalable and dependable networking. He has designed several large-scale and long-lived wireless sensor network deployments. Recently, he has been designing flexible physical layers and alternative security models for IoT devices to communicate more securely.

For additional information about this lecture, please contact:
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Anish Arora, Ph.D.
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Computer Science and Engineering
The Ohio State University
Founder
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FAU Engineering East
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Boca Raton, FL