**Approaches to Machine Learning at the IoT Edge**

With the mainstreaming of IoT, connected devices, and sensors, data is being generated at a phenomenal rate, particularly at the edge of the network. IDC’s FutureScape for IoT report found that by 2019, 40% of IoT data will be stored, processed, analyzed and acted upon at the edge of the network where it is created (1).

Why at the edge? Turns out that sensor data, in most cases, is perishable. Its value is realized within a narrow window after its creation. Further, analytics at the edge provides other benefits including: (2)å

* Reduced Cloud Costs
* Local Reaction
* Increased System Scalability
* Reduced Data to be Analyzed
* Bandwidth and Network Resiliency

This presentation examines current architectural approaches to analytics at the edge, including IoT devices, sensors, network communications with edge gateways, and cloud data centers.

There will be a demonstration of how sensors, controllers, gateways, and cloud computing platforms can be used to collect, process, and analyze data at the edge and the cloud. The presentation concludes with a complete edge to cloud sensor network.

[1] IDC FutureScape: Worldwide Internet of Things 2017 Predictions. Accessed 11/10/2017 via https://www.idc.com/research/viewtoc.jsp?containerId=US40755816

[2] Preimesberger, C. (July 2017). 10 Benefits of Analyzing Data at the Edge in an IoT Environment. Accessed 11/10/2017 via http://www.eweek.com/big-data-and-analytics/10-benefits-of-analyzing-data-at-the-edge-in-an-iot-environment