

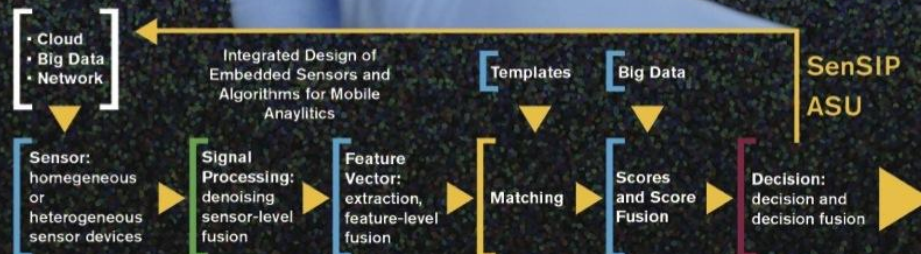


Industry-University Workshop on **Sensors and Machine Learning**

SENS|MACH 2018

WHERE SENSORS AND ALGORITHMS COME TOGETHER

October 28, 2018



Learn the Latest on Hardware and Algorithms for Sensor Systems and Applications



SILVERADO
Resort and Spa, Napa
The Dolce Destination Collection

Call for Participation:

Sensors and Machine Learning for IoT Applications

Industry-University Event, October 28, 2018, 11am-5pm

R&D Presentations, Industry Panel, Short Course on Machine Learning

Silverado Resort and Spa

1600 Atlas Park Road, Napa Valley, CA 94558

In Collaboration with the MEMS & Sensors Executive Congress (MSEC 2018)

Co-Sponsored by the NSF & the ASU SenSIP Center. Technical Co-Sponsor IEEE Phoenix Section



MEMS & SENSORS
Executive Congress



sensmach.asu.edu

SENSORS & MACHINE LEARNING WORKSHOP

Join us for ASU SENS|Mach
Sunday, October 28, 2018, 11:00am–5:00pm
Silverado Resort & Spa, Napa Valley

In collaboration with the MEMS & Sensors Executive Congress—[MSEC2018](#)

The ASU Sensor Signal and Information Processing (SenSIP) center and the SEMI MEMS & Sensors Executive Congress (MSEC) will hold a collaborative Sensors and Machine Learning workshop on October 28, 2018, 11am -5 PM. The event will be co-located with MSEC 2018 at the Silverado Resort and Spa.

SENS|MACH Program Highlights

- **Industry/University Talks:** Sensors, Internet of Things, Smart Campus, Modern Machine Algorithms for Sensors
- **Panel:** Key sensor business and technology disrupters for the next decade, Moderator Steve Whalley
- **Short Course:** A Primer on Machine Learning for Engineers and Managers working in Sensor Applications

Registration is required. Registration fee covers the entire SENS|MACH program, meals and short course

PRESENTATIONS (Details Coming Soon)



PANEL



NETWORKING



STUDENT POSTERS



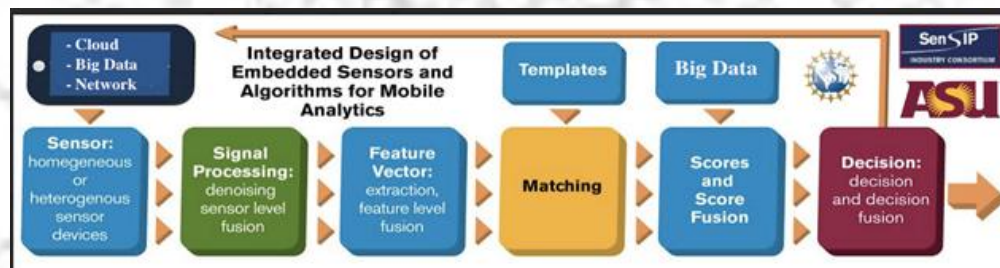
SHORT COURSE: A PRIMER ON MACHINE LEARNING FOR ENGINEERS AND MANAGERS

This tutorial provides an introduction to the principles and applications of machine learning algorithms, software and applications. The tutorial begins with an introduction to the basics of pattern matching, feature extraction, and supervised and unsupervised learning. The lecture then covers basic methods such as the k-means, support vector machines, neural nets and deep learning. The coverage is at a high level for beginners featuring functional block diagrams, qualitative descriptions, and software examples. The course connects algorithms with sensor applications including health monitoring, IoT, and security applications.

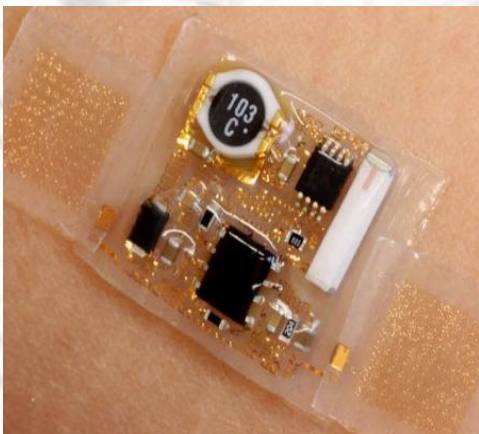
Topics:

- Qualitative Overview
- What is machine learning?
- Use in Sensors and Big Data
- Algorithms and Software
- Beginnings from Vector Quantization & Cell Phones
- Feature Extraction and K means
- Adaptive Neural Nets
- Support Vector Machines
- Bayesian Methods
- Deep Learning
- Embedding machine learning on sensor boards
- Applications; IoT, health monitoring, security; smart campus, smart cities; software tools

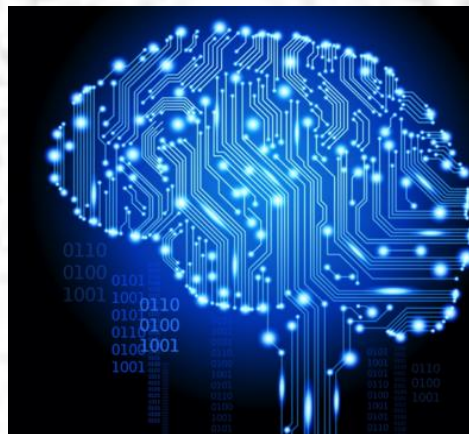
Who Should Attend: The tutorial is designed for students, engineers and managers who need to understand the basics of machine learning and their utility in various sensor applications. The tutorial should be of particular interest to engineers and managers who need to prepare for projects that involve learning algorithms for sensors.



Sensors



Machine Learning



IoT



VENUE



SILVERADO RESORT and SPA, NAPA VALLEY
600 Atlas Peak Rd, Napa, CA 94558

MEETING ROOM



RECREATION



ORGANIZERS

Andreas Spanias, ASU SenSIP
Stephen Whalley, World Ventures
Jayaraman Thiagarajan, Lawrence Livermore Labs

LOCAL ARRANGEMENTS

Robina Sayed

VOLUNTEERS

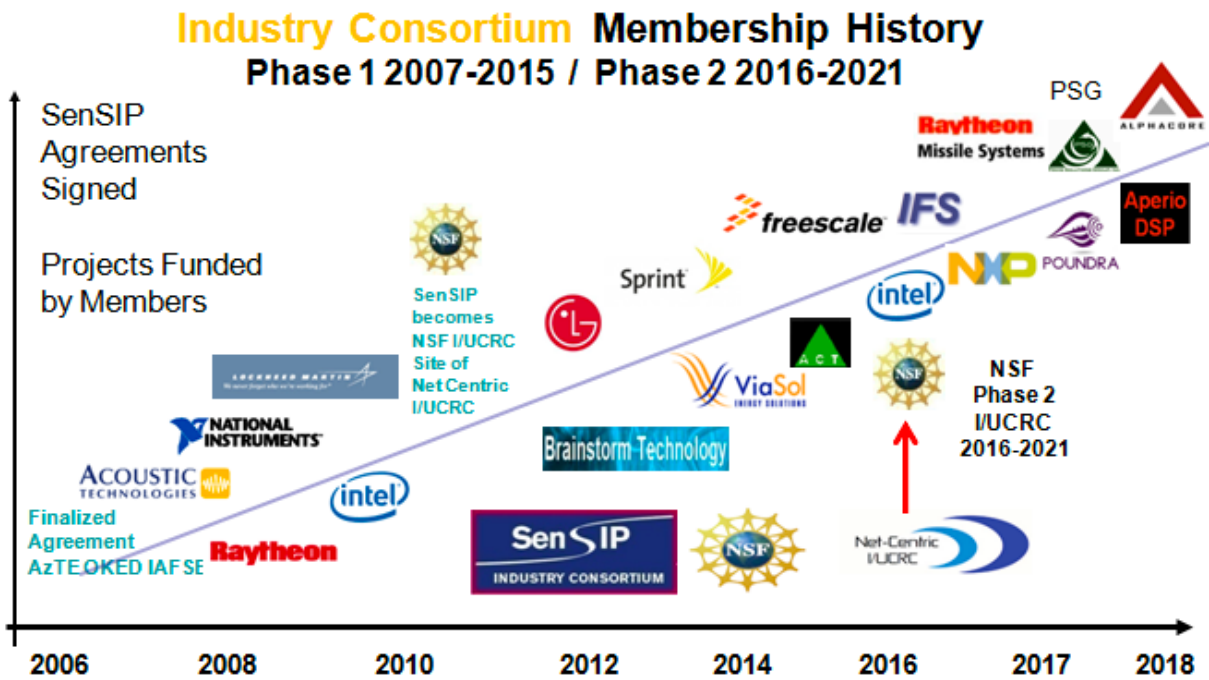
SenSIP Center Students:

Kristen Jaskie
Sam Katoch
Uday Shanthamallu
Jie Fan

TECHNICAL CO-SPONSORS

SenSIP, IEEE SPCOM Chapter, NSF I/UCRC

MAIN ORGANIZING CENTER: ASU SenSIP I/UCRC



SenSIP is an NSF Industry/University Cooperative Research Center (I/UCRC)

ASU NCSS SenSIP Site Specializing in Sensors & Machine Learning