**Progress Report for Darius for period 24 Aug 2017 to 8 Sept 2017**

**A. Major Tasks accomplished in past 1 week (indicate no. of hours spent)**

Readings:

1. Layered Black Phosphorus as a selective vapor sensor
2. Pattern Recognition Techniques for Odor Discrimination in Gas Sensor Array
3. Fusion of electronic nose, electronic tongue and computer vision for animal source food authentication and quality assessment
4. Electrochemical stability and surface analysis of a new alkyd paint with low content of volatile organic compounds
5. Analysis of large experimental datasets in electrochemical impedance spectroscopy

Design & Development:

1. Setup Scikit python environment, and experiment with some included dataset and simple machine learning algo.
2. Found some synthetic data (A catalyst layer optimisation approach using electrochemical impedance spectroscopy for PEM fuel cells operated with pyrolyzed transition metal-N-C catalysts) Tried to load data in scikit and experiment with the program.

**B. Comments**

Project Goals met:

Queries & Points for Discussion:

1. Baseline Shift
2. Recalibration
3. Implementation with multiple selective sensors vs EIS

Problems encountered:

1. Difficult to find good synthetic data
2. Scipy installation error :No Lapack/Blas Resources Found (Solved)

**C. Plans for the next 1 week (indicate planned time where possible)**

Readings:

1. Machine learning methods on exhaled volatile organic compounds for distinguishing COPD patients from healthy controls
2. ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY
3. Non precious metal catalysts for the PEM fuel cell cathode
4. Accelerating Deep Convolutional Neural Networks Using Specialized Hardware
5. Detection of hazardous volatile organic compounds (VOCs) by metal oxide nanostructures-based gas sensors

Design & Development:

1. Try out python scikit’s available noise reduction algo
2. Look for better synthetic data