

## EE/CprE/SE 492 BIWEEKLY REPORT #2

01/27/2018 – 02/09/2018

**Group: *sdmay18-32***

**Project title: *Machine Learning / AI / Big Data Analytics***

**Client &/Advisor: *Danfoss***

**Team Members**

- Smriti Manral — Lead Test Engineer / Test Designer
  - Derek Bruun — Embedded Systems Lead / Hardware Integrations
  - Victoria Rasavanh — Communications Lead / Webmaster
  - Brian Lindsay — Software Integrations Lead / Dev Tools Manager
  - Jess Walters — Lead Architect / Tech Lead
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### Summary

This period we met with Tejaswini Vuyyuru (“Tej”), Danfoss data analyst and ISU grad student, to get her integrated into our workflow. We have her set up to integrate her R code (for analytics) in such a way to interface with our database. Machine learning code has begun in TensorFlow, and a dashboard with the base features and database connection complete.

### Pending Issues

The team has yet to access Danfoss’s Slack, but otherwise work has continued like normal. Smriti will be needing access training data that represents both correct and incorrect behavior. Tej could not get her R environment to connect to our DB due to permission issues, and will be sending her source code for us to try and connect on our end. Furthermore, design changes to the Ignition dashboard were suggested.

## Contributions

Name	Contribution(s) this Period	Hours this Period	Cumulative Hours
Derek Bruun	Completion of our database store procedures, as well as basic research for getting Ignition to connect to the database.	7	51.5
Brian Lindsay	Research & development into generating a stream of dummy data that can be pumped directly in our DB and/or our Ignition dashboard	5	50
Smriti Manral	Has met with Tej to discuss data analytics, as well as gotten started on writing the Python code for our machine learning data.	7	45.5
Victoria Rasavanh	Completion of the most basic version of our Ignition dashboard, as well as starting up our official documentation	8	52
Jess Walters	Aiding Tej with the setup of her environment, as well as doing some DB refactoring	6	61.5

## Plans for Next Cycle

- Smriti will continue work with Tej on getting our learning algorithm, and we should have a first pass done by next cycle.
- Micky (Brian) should have basic, valid dummy data to pipe through our system
- Jess will be helping Tej finish setup on her environment, as well as refactoring some of our DB architecture based on Tej's feedback on her first look through the data. This includes integration of Tej's R code.
- Victoria will be making changes to the initial Ignition dashboard prototype in accordance with the feedback from Danfoss personnel, as well as researching the integration of login credentials
- Derek will be aiding the process of running/integrating the R code into our database, as well as helping Victoria research external integrations into Ignition.
- Everyone should be keeping documentation as they go along