# EE/CprE/SE 492 Bi-Weekly Report 06

**November 5th - November 19th**
**Group Number:** 18
**Project Title:** Object Detection and Identification with Sensor Fusion
**Client:** Danfoss (Michael Olson)
**Advisor:** Dr. Wang
**Team Members/Role:**

Tucker Creger - Project Manager
Eric Bishop - Software Developer
Kellen O'Connor - Deep Learning
Clayton White - Hardware Design Engineer
Mitch Hagar - Radar System Lead
Nihaal Sitaraman - Hardware Developer

## Weekly Summary:

Over the last two week we really started the final push of real work we can get done before Thanksgiving Break. We had a lot of great progress testing our system. We also had a great demonstration for our client and our advisor.

## Past week accomplishments:

- Nihaal picked up our final test stand from Danfoss, designed by Mitch and Nihaal.
- Tucker purchased additional mounting hardware for the radar and test stand.
- Tucker and Kellen mounted the Radar and Camera on the test stand and conducted additional testing on 11/6.
- The team demoed the system to Danfoss on 11/9.
- The team conducted testing outside on 11/11.

## Pending Issues:

- We need to test the radar and neural network detection program on the Jetson to evaluate performance.
- We need to prepare our poster and final report

## Individual contributions:

| Name | Accomplishments | Hours This Report | Hours Cumulative |
|---|---|---|---|
| Tucker Creger | I worked with Kellen to mount the Radar to the test stand. I also worked with Kellen on some system testing outside and comparing the effects of center cropping our camera output or not. I also worked with the whole team on more system testing outside. Individually, I worked on compiling an outline of information for our Poster. I also began laying out information on our poster. | 7 | 60 |
| Eric Bishop | Worked with the team to work on the product and complete final testing. Helped divide up work and figure out the list of tasks we have to complete before our due dates | 6 | 50 |
| Kellen O'Connor | I worked with Tucker to mount the radar to the test stand and conducted some outdoor testing to see how the system compares to inside. Worked with the team on doing outdoor testing of the system with cars and people. Started on documentation for the software which will be included in the final report. Demoed to our client on 11/9, where he gave some feedback that we will attempt to implement quickly. | 7.5 | 66.5 |
| Clayton White | Participated in system testing with the team in both indoor and outdoor conditions. I also joined part of the team in a demonstration to the client. | 7 | 42 |
| Mitch Hagar | The team and I performed multiple tests with the system. We demoed to our faculty advisor, Danfoss contact, and just to gather data. Went to pick up the mount from our Danfoss contact. Worked on Pirm slides. Attended a lab | 8 | 47 |

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|---|---|---|---|
| | safety demo with Lee. | | |
| Nihaal Sitaraman | I communicated with Radek from danfoss Ames to develop the stand and 3D print parts for the radar and camera mount. We also fine tuned the system to ensure it would be sturdy consistent design. I also helped with the outdoor testing of the radar and camera system with the team. Individually, I recorded data and Tucker organized it so we could present it to our client, Michael. Finally, I transcribed notes from our client and advisor meetings so we had references and notes. | 12 | 48 |

## Plans for next two weeks:

- Tucker will be working finishing a draft of the poster for the team to review.
- Tucker and Kellen will be documenting system performance for the final report.
- Kellen will complete all software documentation and ensure Git is up-to-date.
- Kellen will work on the poster and final report for software related topics.
- The team will hand-off the system to our client after the IRP and also return other hardware we were given by the client to test.

## Advisor/Client Notes:

We will be trying to meet with our advisor one more time before the IRP and meet with our client one more time this semester. Our IRP is on December 6th at 8:30 am.