

CprE/SE 491 Weekly Report 9

Dates: 3/16/2017 - 3/22/2017

Dec1709 - ALVINN

Autonomous Vehicle Mission Processor with Machine Learning

Team Leaders:	Bijan Choobineh Darren Davis	Advisors:	Dr. Jones & Dr. Zambreno
Communicator:	Tracy La Van	Client:	Josh Bertram - Rockwell Collins
Key Concept Holders:	Jesse Luedtke David Schott	Email:	dec1709@iastate.edu alvinn@iastate.edu
Webmaster:	Robert Stemig		

Weekly Summary:

Over the second half of spring break, some members of the team were able to meet on campus to further investigate what software/libraries would integrate on the type of boards that were purchased for the project. When classes resumed, the team spent some time getting the class forms straightened out. The team also spent some time brainstorming for the 5 min class presentation; however, more brainstorming will take place at a later time.

Past Week Accomplishments:

- **Darren, Jesse, David:** Met with some team members over spring break, going over image processing and starting feature detection. Also, discussed frameworks to use for the next stage.
- **Bijan Choobineh:** Worked with image processing and feature detection via OpenCV as well as played catch up with other classes/projects. Able to detect some objects, yet consistency and accuracy need work.
- **Tracy La Van:** Worked on OpenCV mainly - enjoyed spring break the other half of the week.
- **David Schott:** Shared a large collection of images that could be used for training. Also implemented a python script for automated pre-processing of images.
- **Robert Stemig:** Worked on openCV, was out of town over the course of spring break

Pending Issues:

- **Bijan Choobineh:** Accuracy and increased work with image detection

Plan for Coming Week:

- **As a Group:** Continue working on 5 minute presentation and begin working on the next iteration of the project plan.
- **Bijan Choobineh:** Continuing work with feature detection in OpenCV
- **Darren Davis:** Continue working with feature detection and trying to match images within OpenCV.
- **Tracy La Van:** Will continue working on OpenCV on personal laptop.
- **Jesse Luedtke:** Will work on OpenCV
- **David Schott:** Try and create my own cross (X) classifier using OpenCV's haar cascades.
- **Robert Stemig:** possibilities of easily expanding cross (X) classifier in openCV to other basic identifiable shapes

Individual contributions:

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours This Week</u>	<u>Cumulative Hours</u>
Bijan C.	Feature Detection via OpenCV	5.0	40.5
Darren D.	Image processing, Feature detection	6.0	44.0
Tracy L.	OpenCV, Weekly Report	3.0	34.5
Jesse L.	Image processing, Feature detection	6.0	40.0
David S.	Image pre-processing, Feature detection	6.0	28.0
Robert S.	OpenCV, Report	2.0	34.0
Totals:		28.0	221.0

Comments and Extended Discussion:

No advisor or client meetings due to Spring Break.

Summary of Weekly Team Meeting (3/21/2017):

- Present: Bijan Choobineh, Darren Davis, Tracy La Van, Jesse Luedtke, David Schott, Robert Stemig
- Discussed website to make sure it was ready to go
- Discussed IP issue with paperwork
- Briefly discussed changes needed for the next iteration of the project plan
- Began discussing what could be done for 5 min presentation in class next week
 - Demonstration of David's facial recognition

- Demonstration of Jesse's handwriting recognition (though not much to show)
- TODO: Every one brainstorm