CprE/SE 491 Weekly Report 11

Dates: 3/30/2017 - 4/5/2017

Dec1709 - ALVINN

Autonomous Vehicle Mission Processor with Machine Learning

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

Weekly Summary:

This past week, the group worked on Project Plan v2. This version of the Project Plan needed a lot of revision and consumed a lot of everyone's time. In addition, the group briefly discussed the need to get organized for PPv3, DDv2, and the final presentation soon since finals are a month away and the last few weeks of the semester are generally full of final projects in EE, SE, ComS, and CprE classes.

Past Week Accomplishments:

- **Bijan Choobineh:** Worked on project plan v2 doing final review and formatting for submission. Since then worked towards understanding how to deal with jagged edges detected in an image regarding image detection unsuccessfully. Spent rest of time with other class final projects.

- **Darren Davis:** Updating project plan v2 and doing final review and fixes before submitting since Tracy was gone. Looked for better images to use in detecting an "X". The initial image was done in paint and the diagonal lines are jagged resulting in numerous edges being detected.

- **Tracy La Van:** Worked on finishing the sections of the Project Plan v2 assigned to me and Weekly Report 11. I went through all past weekly reports, project plans, and the design documentation in order to clean up the PDFs for the website. I was gone half of the week at a conference, which cut my availability down significantly this week.

- **Jesse Luedtke:** Worked on Project Plan v2 and worked on getting familiar with Caffe.

- **David Schott:** Worked on a decent chunk of Project Plan v2.

- **Robert Stemig:** Updating project website to meet class standards, worked on project plan v2, began tutorials on Caffe

Pending Issues:
- **As a Group:** N/A

Plan for Coming Week:
- **As a Group:** Design Document v2, Final 491 presentation, team photo, and possibly Project Plan v3

- **Bijan Choobineh:** Cleaning edges off a image

- **Darren Davis:** Detecting an "X"

- **Tracy La Van:** Will continue working on OpenCV.

- **Jesse Luedtke, David Schott, Robert Stemig:** Caffe

Individual contributions:

NAME	Individual Contributions	Hours This Week	Cumulative Hours
Bijan C.	Project Plan 2, Clearing edges in image detection	3.0	46.5
Darren D.	Project plan v2 and detecting an "X"	5.0	55.0
Tracy L.	My sections of PPv2, Weekly Report, Clean PDFs for website	6.0	45.5
Jesse L.	Project Plan v2 and Caffe	3.0	48.0
David S.	Project Plan v2	4.0	34.0
Robert S.	Website, Caffe, Project Plan	3.0	39.0
Totals:		24.0	268.0

Comments and Extended Discussion:
The team plans to begin work on Design Document v2 and Project Plan v3 in order to get these done before final projects in other classes begin consuming most of our work time. Final version of the project plan will be submitted after feedback has been received for PPv2 and corrections made (if necessary). Planning for the final presentation for 491 will begin soon as well, in order to make sure everyone has adequate time to contribute and practice prior to our presentation date (which is TBD at this time).

Summary of Weekly Advisor Meeting (3/30/2017):

- Present: Dr. Jones, Bijan Choobineh, Darren Davis, Jesse Luedtke, David Schott
- Absent: Dr. Zambreno, Tracy La Van, Robert Stemig
- Talked about current status of detecting an "X" and issues with detection when image is scaled. Dr. Jones suggested trying different image with smoother edges. He also asked for a minimum of screenshots next time to help convey the information and issues. Dr. Jones asked for a email requesting contact information for his graduate student, who is doing research in computer vision, so we could get assistance with any issues.
- Discussed looking at alternatives to TensorFlow for machine learning since it is not supported by the TX1 board. These alternatives include cascading within OpenCV, and the Cafe framework.
- Finished by covering things that we should include in the final presentation. Dr. Jones requested an email to him and Dr. Zambreno inquire about availability for final presentation.