Jia Wen Lee

233 Sheldon Ave Unit 21, Ames IA 50014, jwleehere@gmail.com +1(515) 708-8227
https://jiawenl.com

Education:

Bachelor of Agricultural Engineering- Iowa State University: CGPA - 3.97 Graduated: Fall 2018
Masters of Science in Agriculture Engineering: CGPA - 4.0 Expected: Spring 2020

Work Experience:

Iowa State University – Graduate Research Assistant May 2018- Present

- Conduct literature review to assess viability of sensor technologies in client specific usage.
- Log, process, clean and merge LiDAR data with GPS data into manageable point cloud and perform post-processing data analysis to assess viability of sensor for client application using MATLAB and C++.
- Create DOE and execute tests for LiDAR in a lab environment to understand first principal relationship of LiDAR including effects of distance, incident angle, background sunlight and moisture in a controlled environment. Utilized hypothesis testing and ANOVA to statistically determine significance of each factor.
- Build and test algorithms to condense LiDAR data into a usable metric for feedback control.
- Pull radar data from SQL and conduct data analysis on viability of specific radar for Agriculture application. Data analysis concluded that sensor was not viable. Results were documented and presented to the team.
- Design and build housing for electrical modules as well as wire module for field testing. Improve current research equipment.

Ag Leader Co-op May 2017 – Dec 2017

- Process and analyze CAN data of mass flow from John Deere combine and grain carts.
- Optimize existing MATLAB programs used for data processing resulting in reduction of program run time by a factor of 270. Benchmark time was 9 hours, new program is 2 minutes.
- Work with data loggers to collect measurement information on combines for harvest.
- Create new MATLAB programs and GUI to speed up data processing and data analysis.

Relevant Skills:

Software & Programming:
C, C++, Python, MATLAB, Simulink, Stateflow, Linux (Ubuntu), OpenCV, SQL, Java, JavaScript, HTML, Excel VBA, SOLIDWORKS, Automation Studio, JMP, CANoe, CAN Bus, UDP, Serial, I2C, PID control, Git, Microsoft Office, ROS, Kalman Filter, LabView, Machine Learning

Sensor & Electronics:
LiDAR, IP camera, Arduino, Beaglebone, Raspberry Pi, M220, Data Loggers, Encoders, IMU, GPS, PLC

Leadership & Activities:

ISU Robotics Club -Ion Autonomous Snowplow Competition Aug 2017 – Present
-Mechanical Lead. Design drive train and inner structure for snowplow. Assist with programming and testing LiDAR obstacle detection system in C++.

First Robotics Competition Mentor – Controls Dec 2017 – Present
-Teach and advise high school students Java programming and implementation of control concepts including PID, path planning, odometry, error logging and sensor usage.

American Society of Agricultural and Biological Engineers (ASABE)
ASABE Robotics Team Leader May 2016-Aug 2017
-4th place in ASABE Robotics competition 2016. Manage team members tasked with design and manufacturing.
-Design mechanical and electrical part of the robot and program robots for fully autonomous competition specific task.