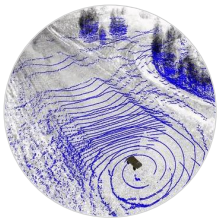

Ao Yu

Software Engineer

A passion for learning and applying what is learned to solve real world problems. Strive for simple solutions derived from first principles to solve complex problems.

engietoday@gmail.com | 248-870-7318 | Novi, Michigan | bit.ly/3cXfq7q | linkedin.com/in/ao-yu

WORK EXPERIENCE

Software Engineer
General Motors LLC

08/2021 - Present *Milford, Michigan*

Achievements/Tasks

- Implementation of embedded software requirements and features
- Implementation of high-level software architecture by use of various design patterns
- Integrated supplier codebase for lower-level software
- Developed automated test suit at the unit and HIL level

Autonomous Vehicles Controller Integration Engineer
General Motors LLC

04/2017 - 07/2021 *Milford, Michigan*

Tasks

- Duties regarding development and integration of perception, mapping, and localization stack for GM Defense's leader-follower autonomous program.Integration and validation efforts for supplier provided board support package (M_CAL)
- Supported bring-up of BSW layer components for new controller program
- Integration and validation efforts for supplier provided board support package (M_CAL)

Robotics Research Engineer
General Motors R&D

08/2015 - 03/2017 *Warren, Michigan*

Tasks

- Developed user-friendly software application.
- Developed novel adaptive motion controls algorithm.
- Performed experiments and tests to validate hypothesis.
- Employed object oriented paradigms and design patterns.

EDUCATION

Master of Science - Mechanical Engineering
Wayne State University

06/2015 - 07/2016 *Detroit, Michigan, GPA: 4.0*

Bachelors of Science - Mechanical Engineering
Wayne State University

04/2012 - 06/2015 *Detroit, Michigan, GPA: 3.73*

SKILLS

C/C++ | Python | Robot Operating System | Linux/Ubuntu | Object Oriented Programming | Autosar | CAN/Ethernet/LIN/Flexray | Software Development | Task Management | Research and Development | Issues Resolution | Embedded Programming | Product Development | SLAM

PERSONAL PROJECTS

IMU Sensor System for Patients (01/2015 - 05/2016)
- Developed C# based windows application to interface with IMU sensor wirelessly via bluetooth
- Developed native Java android application to interface with IMU sensors wirelessly via bluetooth

Autonomous Lawn Mowing Robot (07/2020 - Present)
- Developed embedded and ROS based software stack
- Mowing robot utilized RTK and lidar for localization
- Mowing robot utilized camera and lidar for object detection and tracking
- Developed scalable embedded software architecture by reflecting Autosar standards

Social Application (05/2020 - Present)
- Use of HTML, CSS, and Javascript for front and back end features
- Utilized Google Firebase for backend database
- Utilized Flutter/Dart to develop mobile application

ACHIEVEMENTS

TeamGM Award
Awarded for automating software testing on HIL environment

Undergraduate Research Grant
Monetary grant to perform R&D of inertial based medical device

INTERESTS

Computer Science | Coding | Learning | Robotics | Automation | Innovating | Networking | Football