

Experience

Autonomous Software Engineer

L3Harris

05/2020 - Present

- Design, estimate, build, deploy, and support leading autonomy solutions for Unmanned Surface Vessels
- Introducing collaborative autonomy support into our software suite
- Created a product to introduce autonomous navigation recommendations on Manned Surface Vessels
- Led a team of 7 engineers to add aerial payload support on unmanned vessels by adhering to additional kinematic constraints during motion planning
- Lead a team of up to 5 software engineers over the past 3 years for solving motion planning problems
- Provide onsite support for deployment and testing of new vessels, including 7 day deployments at sea
- Contribute significant development of software for 6 Medium / Large Unmanned Vessels for the Navy
- Apply cutting edge research in autonomy and perception for Unmanned Surface Vessels
 - COLREGs compliant nonholonomic motion planning, collision avoidance, and route planning
 - Object detection and classification using Convolutional Neural Networks
 - Sensor fusion and localization using Kalman filters and Gaussian processes
- Write hundreds of unit tests and over 200 regression tests to validate new features and maintain consistent behavior
- Participate in an agile workflow, code reviews, and design meetings

Data Scientist

Frank's International

05/2019 - 05/2020

Software Engineer Intern

06/2017 - 05/2019

- Researched and utilized Dense and Convolution Neural Networks, Linear Regression models, and Decision Trees and Forests for monitoring and automating dangerous oilfield procedures
- Trained 4 Machine Learning models to over 90% accuracy on tens of thousands of well connections
- Created programs for cleaning, pre-processing, analyzing, and visualizing millions of data points
- Developed programs in Python and LabVIEW to control a suite of hydraulic and pneumatic tools

Education

M.S. Computer Science

Georgia Institute of Technology

Specialization in Computational Perception and Robotics

Relevant Coursework:

Artificial Intelligence

Computer Vision

Reinforcement Learning

Graduate Algorithms

Computational Photography

Intro to Analytics Modeling

Robotics: AI Techniques

Machine Learning for Trading

Game AI

B.S. Electrical Engineering

University of Louisiana at Lafayette

Minor in Mathematics

Honors & Awards: *cum laude*, Daniel G. Egan Scholarship, TOPS Honors Scholarship

Extracurriculars: National Honor Society, Louisiana Engineering Society

Publications: "Relative Angle Correction for Distance Estimation Using K-Nearest Neighbors," in IEEE Sensors Journal, vol. 20, no. 14.

Projects

Navigation Assistance Using Neural Networks

- Developed an Android app as a senior design project to improve navigation and safety for the visually impaired at the University of Louisiana at Lafayette
- Utilized TensorFlow and OpenCV to create a U-Net architecture for semantic segmentation and a typical convolutional neural network for classification

Languages & Tools

C++

Python

LabVIEW

TensorFlow

OpenCV

Pandas

NumPy

Linux

GDB

ROS2

Skills

Artificial Intelligence

Machine Learning

Computer Vision

Reinforcement Learning