Jeremy Desforges

jadesforges@gmail.com
(504) 739-8996

Experience

Specialist Software Engineer — **L3Harris** — **03/2023 - Present**
Sr. Associate Software Engineer — **11/2021 - 03/2023**
Associate Software Engineer — **05/2020 - 11/2021**

- Designing, proposing, estimating, scheduling, building, deploying and supporting solutions for customers
- Proposing a response to the government to integrate collaborative autonomy into 100+ Small Unmanned Surface Vessels
- Leading creation of a product to introduce autonomous navigation recommendations on manned 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 2.5 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** — **Graduated 05/2022**

Specialization in Computational Perception and Robotics

B.S. Electrical Engineering — **University of Louisiana at Lafayette** — **Graduated 05/2019**

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

Blind Navigation Using Neural Networks

- Developed an Android app as a senior design project to improve navigation and safety for blind people 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

C++, Python, LabVIEW, MATLAB, C#, Java

Skills

Artificial Intelligence, Machine Learning, Computer Vision, Reinforcement Learning

Tools & Frameworks

TensorFlow, OpenCV, Pandas, NumPy, Confluence, Doxygen, GDB, Linux, Jira