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Matthew Anderson

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Employment

Senior Machine Learning Engineer II - Perception — **Cruise** — **Jun 2018 - Present**

- Develop and implement strategies for adapting machine learning models to multiple vehicle and sensor platforms utilizing: multi stage training, data augmentation and simulation data
- Implement, test, analyze, deploy, and monitor safety critical features improving overall tracking performance with a focus on data association and multi sensor fusion
- Act as a technical leader on the team through mentorship, roadmapping, and project management
- Mantain onboard vehicle stack to extract model input features and process model outpulst for downstream consumption
- Collaborate with detection teams and consumers to solve problems throughout perception such as perceiving non critical objects
- Utilized machine learning techniques including: feature engineering, data mining, loss weighting, and model architecture changes to improve model behavior and enable higher speed tracking
- Automated data pipelines with internal libraries to ultimately fully automate model data generation, retrain, and deployment with a single command; Increased developer iteration speed by 3x and enabled the team to ship model iterations on a monthly cadence.
- Contributed to replacing legacy systems with machine learning solutions for tracking problems

Software Engineer - Sensors and Special Programs — **The Boeing Company** — **Jul 2016 - May 2018**

- Implemented sensor data fusion algorithms with a small team of 5 contributors
- Created standalone libraries to be integrated into multiple Boeing platforms
- Designed and developed a modular library capable of running multiple related algorithms and combining their results
- Implemented and maintained an application to perform offline simulations which integrated with internally developed tools to evaluate algorithm performance
- Prototyped, tested and analyzed a new Kalman filtering functionality to increase performance of algorithms and enable new capabilities

Education

Rolla, MO — **Missouri University of Science and Technology** — **Aug 2012 - May 2016**

- B.S. in Computer Science, Magna Cum Laude, GPA: 3.69
- B.S. in Computer Engineering, Magna Cum Laude, GPA: 3.69

Languages and Technologies

- C++; Python; PyTorch; Robot Operating System (ROS); Bazel; CMake; Git; Boost;