Seattle, WA
linkedin.com/in/matthewianderson

Matthew Anderson

(314)-210-8316
matthewia94@gmail.com

Employment

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

- Implemented, tested, analyzed, deployed, and monitored safety critical features for improving overall perception performance:
  - Added support for object velocity prediction in an early fusion detection model reducing false positive motion predictions by over 100%
  - Iterated on data and loss weighting to recall out of distribution objects traveling at extreme speeds
  - Experimented with new architectures for perception such as TrackFormer and DSVT
  - Identified and planned solutions for observed road problems including: harsh braking around cones, poor classification of large animals, sensor specific ghosting artifacts
- Acted as a technical leader on the team through mentorship and project management:
  - Led, reviewed, and approved model release analyses across perception to ensure safe deployments
  - Ran experiment reviews and led discussions to share learnings and align on follow-up experiments
  - Worked with partner teams to improve developer velocity and safety through automations in analysis
  - Documented and formalized processes to ensure a consistently high safety bar within perception
- Responsible for maintaining the onboard vehicle stack to extract model input features and process model outputs for downstream consumption
- Automated data pipelines with internal libraries to fully automate model data generation, retrain, and deployment with a single command; Increased developer iteration speed by 3x and enabled the team to merge model iterations on a monthly cadence when necessary
- Collaborated to replace legacy tracking systems with machine learning solutions

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
- 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 approach to increase performance of algorithms and enable new capabilities

Education

Rolla, MO	**Missouri University of Science and Technology**	

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

Languages and Technologies

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