John Alling
Kessel Run Software Engineer

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Education

Harvard University, Cambridge, MA   May 2021
Master of Science in Computational Science & Engineering
Relevant Coursework: Artificial Intelligence | Tiny Machine Learning | High Performance Computing

Northeastern University, **Boston, MA**   May 2020
Bachelor of Science in Computer Engineering - *Summa Cum Laude* | Minor in Mathematics
Honors: Tau Beta Pi Engineering Honors Society, Dean's List
Relevant Coursework: Software Performance Evaluation | Robotics | Computer Systems | Algorithms

Technical Skills
Programming Languages:
> Python (Tensorflow, Pandas, PyTorch, PySpark, Scipy), SQL, C++, C, JavaScript/Typescript, MATLAB

Software Methods:
> Agile, Extreme Programming, CI/CD, Containerization, Test Driven Development

Software Technologies:
> Docker, Pivotal Cloud Foundry, Linux OS, Gitlab, Github, AWS, Mac OS, Spark/Hadoop

Work Experience

Kessel Run, Boston, MA
Software Engineer   June 2022 – Present
- Developed microservice architecture-based app to automatically plan tanker air refueling missions
- Made continuous improvements to diverse codebase using Python, JavaScript, and SQL
- Utilized agile and XP practices to provide constant deployment upgrades for PCF-hosted application

Air Force Research Laboratory, Rome, NY
Artificial Intelligence & Edge Computing Engineer   June 2021 - June 2022
- Implemented deep learning algorithms on low SwAP hardware to advance neuromorphic computing
- Explored novel methods of increasing robustness in AI/ML models to adversarial attack

Air Force Institute of Technology, Wright-Patterson Air Force Base, OH
Reinforcement Learning Research Intern   September - December 2019
- Leveraged state-of-the-art deep reinforcement learning techniques to train autonomous satellites
- Architected software packages using Docker

Massachusetts Institute of Technology Lincoln Laboratory, Lexington, MA
Advanced Capabilities and Systems Engineering Intern   May - September 2019
- Evaluated SIFT-based UAS localization processing chain using CUDA
- Optimized HUD of UAS ground control station using Qt to improve UX

Advanced Capabilities and Systems Technical Assistant Co-op   June - December 2018
- Developed computer vision algorithms for micro-UAV navigation with OpenCV
- Extended detection algorithms to prototype visual servoing guidance
- Integrated developments using Robot Operating System (ROS) middleware

Surveillance Systems Engineering Co-op   July - December 2017
- Analyzed collision avoidance and surveillance algorithm performance of aircraft collision avoidance system
- Upgraded C++ based simulation framework on Lincoln Laboratory supercomputing capability

Oak Ridge National Laboratories, Oak Ridge, TN
Energy Efficiency and Renewable Energy Robotics Intern   June - August 2016
- Programmed algorithms utilized by the world's largest 3D printers, translating C++ code into G-code by ORNL Slicer software
- Reduced G-code requirements in print layers by 33% using arc commands