(540) 216-8244
Manassas, VA
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Matthew Trang

Machine Learning Engineer

Portfolio: mattluutrang.github.io
github.com/trangml
linkedin.com/in/matthew-trang

Skills

Languages	Python, C++, LaTeX, Java, Javascript, MATLAB/Simulink
Programming Tools	PyTorch/Tensorflow, RLLib, StableBaselines, OpenCV,
Engineering Tools	Arduino, Raspberry Pi, AutoCAD, ROS, AutoDesk Inventor

Technical Experience

Machine Learning Engineer / Multiple Contracts — **Dec 2019 — Present**
Heron Systems — *Alexandria, VA*
- Train RL agents for government contracts involving transfer learning, trustworthy AI, and complex control
- Research PETS and PPO algorithms for creating low-to-high fidelity transfer learning algorithm
- Code custom neural network modules for validating game balance for DARPA Gamebreaker
- Devise novel reward schemes and neural networks for RL AI Fighter Jet Agents on ACE and ADT contracts

Reinforcement Learning Researcher / ECE Dept — **Dec 2021 — Present**
Virginia Tech — *Blacksburg, VA*
- Research Multi-Agent Generalized Reinforcement Learning for Drones using PyBullet
- Masters work under Dr. Thinh Doan

Reinforcement Learning Researcher / ECE Dept — **Jan 2021 — Present**
Virginia Tech — *Blacksburg, VA*
- Research Multi-Agent Generalized Reinforcement Learning for Drones using PyBullet
- Masters work under Dr. Thinh Doan

Senior Design Team Member / PowerHAUS — **Feb 2021 — Dec 2021**
Virginia Tech — *Blacksburg, VA*
- Develop TF2 object detection image classifier for devices in the FutureHAUS, an innovative modular home
- Validate power electronics cartridge consisting of solar panels, charge controllers, inverter, and battery

Perception Team Member / Victor Tango AutoDrive — **Nov 2018 — Sep 2020**
Virginia Tech — *Blacksburg, VA*
- Collaborated with 30+ team members on cross-functional team to design a fully autonomous vehicle
- Utilized Lidar data to create a function of stop sign detection for perception algorithms

Embedded UAV Software Engineering SEPP Intern / — **May 2020 — Aug 2020**
Collins Aerospace — *Sterling, VA*
- Programmed multi-camera visual navigation pipeline for an UAV using MATLAB Simulink and C++
- Collaborated remotely with team of two fellow interns to demonstrate UAV autonomous landing

Education

Master of Science in Computer Engineering, *Virginia Tech* — Expected Grad Dec 2022
Bachelor of Science in Machine Learning, *Virginia Tech* — Dec 2021
University Fellowship, University of Motherland — YYYY — YYYY
Academic Scholarship, Some State University — YYYY — YYYY

Patents

Blockchain System Storage and Block Encryption — **Dec 2019 — Present**
Heron Systems — *Alexandria, VA*
- Devise novel reward schemes and neural networks for RL AI Fighter Jet Agents on ACE and ADT contracts

Reinforcement Learning Researcher / ECE Dept — **Dec 2021 — Present**
Virginia Tech — *Blacksburg, VA*
- Research Multi-Agent Generalized Reinforcement Learning for Drones using PyBullet
- Masters work under Dr. Thinh Doan

Activities

IEEExp Virtual Session Presenter, IEEE@VT — Sep 2021
1st Place, DARPA AlphaDogfight Trials, Heron Systems — Aug 2020
1st Place, National SourceAmerica Design Challenge, SourceAmerica — Jun 2019
Pamplin Scholar Award, Virginia Tech, Full-Tuition Scholarship — Mar 2019
Valedictorian, Patriot High School, 4.909/4 GPA — Jun 2018