Andrew Farabow

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Education

Virginia Tech (2019 - present)
Major: General Engineering (Computer Science)
Gonzaga College High School (2015 - 2019)
GPA 3.98

Skills

Programming: Python, Java
Frameworks: Numpy, PyTorch, OpenAI Gym, OpenCV, Pandas
Other: neural networks, reinforcement learning, GANs, data analytics, Git, LaTeX, Gatling

Work Experience

Undergraduate Research Assistant - Hume Center **2019 - present**

- Working for Prof. Daniel Doyle on SPIDER (Space Interceptor/Detector/Evaluator/Revitalizer)

Machine Learning Engineer Intern - Decipher Technology Studios **2018 - present**

- Working on a small team to develop a new product which provides deep reinforcement learning-powered predictive autoscaling for Decipher's Grey Matter service mesh
- Studied and implemented policy gradient, Q-Learning, and actor-critic approaches to deep reinforcement learning (DQN, DDPG, A2C, PPO, SAC, etc)
- Wrote a microservice environment simulator for offline training with another intern and created a rule-based autoscaler to jumpstart training via imitation learning.
- Configured and deployed demos of Sense to AWS and Openshift for client meetings and major conferences.
- Added Gated Recurrent Units and Convolutional Layers to the neural network to better leverage time-series data
- Collected metrics using Prometheus and Gatling and tested various model architectures on the data using supervised learning
- Compared the performance of different configurations of Sense and kept detailed records of the results

Activities

Gonzaga Dramatic Association Stage Crew **2017 - 2019**

- Led a 20-member team for two productions as stage manager (2018-2019)
- Designed and coordinated the construction of a structure over 20 ft. wide and 8 ft. tall
- Called cues during shows, maintained safe working conditions and solved problems in a high-pressure environment
- Worked with the stage manager to quickly diagnose and fix technical issues as assistant stage manager (2017-2018) before being promoted

HackBI (Bishop Ireton High School Hackathon)

- Won best overall in a programming contest by writing an app that makes use of machine learning and computer vision techniques to interpret hand-written text
- Returned to HackBI in 2018 to mentor teams and teach deep learning concepts

Projects

Computable AI - co-author of a blog on machine learning, writing a Fundamentals of Deep RL series
Machine Learning Templates - flexible PyTorch implementations of a supervised learning neural network, autoencoder, GAN, and evolutionary algorithm designed for future machine learning projects
Grease Lights and Magic Mirror - coded and designed circuits for custom Arduino and Raspberry Pi-based lighting effects and optical illusions featured in high school theater productions