HARRISON STANTON

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About Me

I am a programmer with a focus on applied machine learning. I have architected and built several machine learning solutions to novel problems. I am passionate about cutting-edge algorithms, thorough testing, high performance code, and learning.

SKILLS

Programming Languages

Proficient: Python
Experienced: C, C++, Matlab, Java

Scripting Languages

Experienced: Bash, Csh/Tcsh, LaTeX

Frameworks and Tools

Proficient: PyTorch, Numpy, Gitlab(CI/CD), git
Experienced: TensorFlow, Docker/Podman, Matplotlib, AWS (EC2 and S3)

Operating Systems

Proficient: Linux (Redhat, CentOS, Debian, ArchLinux, Ubuntu)
Experienced: Windows, MacOS

EXPERIENCE

Lockheed Martin, Rotary and Mission Systems, Syracuse, NY

Software Engineer, 2021 - Current

Implemented several different deep convolutional neural network architectures for a novel segmentation use case. Implemented reinforcement learning algorithm to integrate with simulator developed by other team to prove proof of concept. Led DevSecOps initiatives on several teams. Served as technical lead for several internal research projects as well as university engagements.

Software Engineer Associate, 2018 - 2020

Implemented state of the art Reinforcement Learning Algorithms (Soft-Actor Critic and Proximal Policy Optimization) to solve novel control problems. Led the development of a custom simulated environment extending gym used to train the reinforcement learning algorithm. Worked with AWS EC2 elastic compute resources. Created and developed in docker containers with machine learning libraries.

Computer Science Capstone Course Externship, Reno, NV

General Electric, Reno, NV, August 2016 - May 2017

Developed an application to classify sensor data using machine learning techniques. Displayed the data and classification results on a web page using D3.js.

Lab Instructor, Reno, NV

University of Nevada, Reno, Spring 2016

Taught two sections of the Computer Engineering 301 lab for the University of Nevada, Reno.

PROJECTS

Home Server

Personal Project, 2020 - Ongoing

Set up a home server for usage with personal machine learning projects and mining crypto currency. Two Supermicro 4U chassis inside a 12U rack.

AWS Hosted DnD Server

Personal Project, 2021 - Ongoing

Set up a AWS hosted server to virtually play DnD. Created an S3 instance to store all the required assets, and configured the roles for S3. Software is loaded via Docker.

GLM for Machine Learning Technique Prediction

University of Nevada, Reno, Fall 2017 - 2018

Programmed a machine learning classifier ensemble. A large set of datasets were then trained through the ensemble and generated higher order data. This ensemble data was used to create a generalized linear model to predict accuracy of different classifiers based off of specific extracted attributes of the data set. For example, does the distribution of the dataset have an effect on what classifiers perform well?

Machine Learning Strategies for Solving the Bongard Problems

University of Nevada, Reno, Fall 2016

Constructed and trained a support vector machine and a recurrent neural network classifier on a subset of the Bongard Problems.

Smoke Detection Prescreening in Sequential Images

University of Nevada, Reno, Spring 2015

Contributed to a program which identified movement patterns to locate smoke in the early stages of potential forest fires. Project was selected to be presented at ISCA CATA in 2016.

EDUCATION

University of Nevada, Reno, NV

Bachelor of Science, Discrete Mathematics, December 2017

Selected Coursework: Categorical Data Analysis, Statistical Machine Learning

Bachelor of Science, Computer Science and Engineering, December 2017

Selected Coursework: Advanced Computer Vision, Artificial Intelligence