Chris Nalty

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Education

University of Maryland — Spring 2018 - Anticipated August 2021

Bachelor's in Computer Science with honors, with Mathematics minor — GPA 3.84

Relevant Coursework

Computer Science: Algorithms, Data Structures, Machine Learning, Computer Vision, Intro to Data Science, Parallel Computing, Program Analysis and Understanding, Discrete Structures, Computer Systems, Intro to Aerospace Systems

Math: Calculus, Linear Algebra, Differential Equations, Statistics, Number Theory, Abstract Algebra

Current Classes: Bioinformatic Algorithms and Databases, Complex Numbers

Skills

Well Known: Python, PyTorch, Git, Docker, OpenCV, Unix, Java, C, C++

Used: Coq, OCaml, Ruby, Javascript, HTML/CSS, ARM assembly, MATLAB

Employment

Mukh Technologies - Software Engineering Intern — May 2019 - Present

- Data and algorithm visualization for facial recognition software
- Containerization of neural network pipeline in Docker
- PyTorch training and dataset scripts
- Updated front end API and reworked backend while maintaining expected functionality

Orbit Logic - Systems Engineering Intern — November 2018 - May 2019

- Regression testing
- Automation of test setup and running including database restoration using python

Projects

Multi-Task RL Algorithm Comparison on Atari - Honors Thesis | Fall 2020

- Implementations of A2C and PPO for multiple environment types
- Multi-task learning comparison of PPO and A2C on atari environments
- PPO and A2C shown to improve significantly with more tasks

Multi-Task DDQN on Atari | Spring 2020 | with Jill Granados, Michael Stephanus, Makai Freeman

- Implementation of Double Deep Q Network algorithm with PyTorch
- Training comparisons of four visual atari environments with 1, 2 or 4 tasks.

Genetic Algorithms for PyTorch | Fall 2019

- Training of fully connected networks using Genetic Algorithms
- Including rank order and roulette selection, weight level crossover and mutation

Character Recognition | Fall 2019

- Handwritten digit classification on MNIST and Kannada MNIST datasets using a convolutional neural network in Pytorch