CHARLIE GUNN

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Employment

LEIDOS AI/ML ACCELERATOR
Software Engineering Intern   *Summer 2020*
- Researched xRCA (Extended Rapid Class Augmentation), a progressive learning technique to augment new classes onto a model without using data from old classes
- Developed a novel and general technique for stabilizing xRCA initialization accuracy on few data
- **Built with: Pytorch, Numpy, Jupyter, AWS**

LEIDOS
Software Engineering Intern   *Summer 2019*
- Researched techniques for homomorphic encryption over machine learning models
- Tested and benchmarked homomorphic encryption libraries (SEAL, Palisade, nGraph-HE)
- **Built with: Tensorflow, Docker**

BLACKBOILER
Software Engineering Intern   *Summer 2018*
- Developed natural language processing solutions to aid automated contract review
- Clustered legal documents into semantic groups using unsupervised machine learning techniques
- **Built with: SpaCy, Scikit Learn**

CS 2110: COMPUTER ORGANIZATION & PROGRAMMING
Teaching Assistant   *Fall 2020 - Present*

Projects

LATTICODE
May 2020 – Present
- An educational website designed to help intermediate programmers improve by coding 2D grid-based board games. Games are rendered and playable online with friends in real-time
- **Built with: React**

GEOVERIFY
Aug. 2018 – June 2019
- Geoverify is a Haskell library (and command line interface) for manipulating and verifying two-column geometry proofs
- The library can parse and understand both simple arithmetic and geometric propositions, and supports extension by means of postulates and theorems
- **Built with: Haskell (MTL, Lens, Transformers), PostgreSQL, Django**

Awards

PENNAPPS XX
3rd Place Overall – Best Open Source Contribution – Hacker's Choice   *Sept. 2019*
- Developed ImpromPPTX, an automatic real-time presentation generator
- Uses custom-built ML models to generate relevant presentation slides, complete with titles, text summary, and images
- **Built with: SpaCy, Pytorch, FastText, Django**

VTHACKS
1st Place Overall   *Mar. 2019*
- Created Electromotivated, a website that automatically parses and analyzes pictures of circuits using computer vision and graph algorithms
- **Built with: OpenCV, Numpy, Scikit Learn, Django**

Education

Georgia Institute of Technology
Class of 2022 – 4.0 GPA
- BS Computer Science
- BS Mathematics

Thomas Jefferson High School for Science and Technology
Graduated 2019

Skills

LANGUAGES
- Python
- Haskell
- Javascript
- C++
- Rust

TECHNOLOGIES
- Pytorch
- Lens
- Linux (Ubuntu, Arch)
- Docker

MISC
- Chess
- Bananagrams

Relevant Courses

Deep Learning
CS 4803 – In Progress

Probability and Statistics
MATH 3215 – In Progress

Design & Analysis of Algorithms
CS 3510 – Grade: A

Computer Organization & Programming
CS 2110 – Grade: A

Honors Discrete Math for CS
CS 2051 – Grade: A

Applied Combinatorics
MATH 3012 – Grade: A