Domenic SanGiovanni

domsangio@gmail.com / 978-846-3362

EDUCATION

UNIVERSITY OF MARYLAND **College Park, MD**

Bachelor of Science in Computer Science Expected May 2022

Bachelor of Science in Mathematics Expected May 2022

- Overall GPA: 3.95, Major GPA: 4.00

SKILLS

- Java, C, JavaScript, Python, Golang, ReactJS, Git, SQL

EXPERIENCE

SYNOPSYS **Burlington, MA**

SWE Internship May 2020 – Present

- Member of the Web Services-Management team responsible for full-stack development of a Spring Boot Java application that scans projects for potential vulnerabilities
- Redesigned a large-scale automated data collection service using Python, Beautiful Soup, and Pandas, successfully increasing speed over previous version by tenfold
- Optimized the downloading of projects into Excel file format for readability and easy access
- Utilized Mockito framework to develop JUnit tests for new endpoints and code

PARALLEL SYSTEMS LAB **College Park, MD**

Research Assistant Jan 2020 – Present

- Researches High-Performance Computing and parallel programming alongside a professor of Computer Science at the University of Maryland
- Monitors and analyzes IO read/write speeds under varying levels of traffic and resources in an HPC system using IOR and MACSio
- Writes bash scripts to run automated tests on the Lawrence Livermore National Laboratory and Deepthought2 machines using parallel frameworks including Spack, Slurm, and MPI

CAPITAL ONE **College Park, MD**

SWE Internship Jun 2019 – Feb 2020

- Designed and developed a full-stack application to monitor internal services built using Golang and React as part of a large team
- Built and maintained a REST API communicating between front-end, back-end, and database, as well as created SQL queries on a PostgreSQL server
- Constructed UI components, including a data visualization tab and search/filter feature for efficiently searching through applications
- Tested front-end code using Mocha and Enzyme and API and database changes using Gin, requiring at least 85% code coverage

PROJECTS

Simple Programming Language

- Created a compiler and interpreter for a new programming language written in OCaml
- Fully implemented loops, variables, functions, and recursive methods

Cybersecurity Bank Project

- Created a client and server-side bank program used for withdrawing and depositing money into users' accounts, secured with end-to-end encryption over the network between bank and client
- Generated RSA Keys for users, verified access with bearer tokens for messages, and encrypted communications with AES-256 and CBC encryption mode
- Developed in a C environment using sockets for networking and the OpenSSL library for cryptographical functions

Airbnb Rating Predictor

- Designed a rating predictor to determine the average rating of Airbnb sites using quantitative and categorical data
- Used a random forest classifier and decision trees to train and run the model
- Successfully predicted ratings within an error range of less than 5.5 points out of 100

ACHIEVEMENTS

- Participated in VTRMC and Putnam math competitions (placed top 30%) Fall 2019
- Computer Science Honors, University of Maryland Sep 2019 - Present
- Dean's List, University of Maryland Fall 2018 - Present