ROBERT MORRISON

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EDUCATION

University of Maryland, College Park — May 2020
B.S. in Computer Science & Statistics — *GPA 3.6*

Recognition: Brian G. Lyons Computer Science Endowed Scholarship (2019), Maryland Summer Scholars Grant (2018)

TECHNICAL SKILLS

Programming Languages	Python, C++, C, Java, SQL, Haskell, Rust, JavaScript, Go, OCaml
Tools	Docker, Git, Linux, CI/CD, Numpy, Pandas, Sci-Kit Learn

PROFESSIONAL EXPERIENCE

Lockheed Martin — Jun 2019 - Aug 2019
Software Engineering Intern — *Rochester, NY*

- Re-designed, built and tested a flight data analysis tool in Python used by data scientists and engineers every day
- Overhauled the documentation and fielded maintenance and feature requests for the tool
- Built an internal package management system to boost daily productivity for data scientists, engineers and developers
- Integrated the package management system directly with continuous integration and deployment software

National Institute of Standards and Technology — Jun 2018 - Aug 2018
Software Engineer — *Gaithersburg, MD*

- Overhauled a legacy flame speed analysis program written in C++ to update it to modern code standards and make it more maintainable in the future while increasing the speed of calculations
- Worked with researchers directly to develop tests for the programs and make sure the new methods were not negatively affecting the accuracy of the results
- Documented the resulting code thoroughly to ensure the maintainability of the program

University of Maryland — May 2017 - Present
Undergraduate Researcher — *College Park, MD*

- Researched and implemented new data oriented vulnerability detection processes for use in the context of software development using Sci-Kit Learn
- Received the competitive Maryland Summer Scholars grant which is given to less than 30 undergraduates each summer
- Wrote a full technical report describing experimental design and results along with a poster presenting those findings

FedCentric Technologies — Jan 2017 - Aug 2017
Data Science Intern — *College Park, MD*

- Rapidly learned data science and machine learning techniques over the course of a semester
- Replicated and extended past research on machine learning vulnerability detection on old data-sets using a variety of Python machine learning libraries and R data management tools
- Boosted predictive capabilities by 7% suggesting possible industry applications

PUBLICATIONS

Robert Morrison. "Improved Static Vulnerability Detection Methods for use in Large Code Bases." *RSA Conference 2019: Security Scholars*. 2019.

Hogan, Kevin, et al. "The Challenges of Labeling Vulnerability Contributing Commits." *The 4th International Workshop on Reliability and Security Data Analysis*. 2019.

PROJECT EXPERIENCE

NetZero — Apr 2019 - Present
A tool to glean insights on the efficiency of a house

- Built, tested, documented and deployed a fully fledged Python command line tool
- Utilized multiple web API's and SQLite to collect and warehouse data in a fault tolerant manner

Trigger Happy — Oct 2018
A smart nerf gun

- Prevents lethal shots from a nerf gun using TensorFlow, a webcam, and an arduino board
- Won HackPSU Overall - Grand Prize and Booz Allen Hamilton - Best Machine Learning Hack