Cameron McGinley

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Education

University of California San Diego — **September 2022 – December 2023**
M.S. in Computer Science | GPA: 3.97 / 4.00 — *La Jolla, CA*

Wichita State University — **August 2018 – May 2022**
B.S. in Computer Science | Minor in Mathematics | GPA: 3.99 / 4.00 — *Wichita, KS*

Experience

Software Engineer Intern — **June 2023 – August 2023**
Capital One — *McLean, VA*

- Created AWS Lambda functions with Python for automated data collection from AWS EMR instances.
- Leveraged Databricks to build clusters and compute business and performance metrics with PySpark based on 50-100k records daily.
- Automated dashboard and report generation and delivery via SMPT and Slack webhooks to stakeholders.
- Implemented an alerting system for unexpected metric results, eliminating the need for manual checks.

Software Engineer Intern — **May 2022 – August 2022**
U.S. Department of Defense — *Washington, DC*

- Led the design and implementation of a Python-driven C/C++ software assurance system specializing in lexical analysis, handling source code with millions of lines of code at speeds 30-50x faster than previous toolset.
- Applied secure coding expertise to write Python test cases to identify more than 20 types of source code vulnerabilities, such as weak cryptography or self-modifying code.

Test Engineer Intern — **May 2019 – May 2022**
NetApp — *Wichita, KS*

- Wrote Python scripts to automate firmware testing for data storage systems, ensuring stability and interoperability across diverse configurations of servers, switches, drives, and communication protocols (e.g., iSCSI, NVMe).
- Developed Python software to collect and track test configurations and versions through NetApp, Windows, and Linux system APIs, saving each QA engineer ~10 minutes daily and improving management's view of testing.

Machine Learning Research Intern — **June 2021 – July 2021**
Purdue University — *West Lafayette, IN*

- Designed and developed a Python-based scraper to generate datasets of buggy and non-buggy Java code from open-source repositories, employing bugfix Git commits and Jira issues for automatic classification of code.
- Computed cross-entropy on n-grams of Java code, discovering up to 15% greater entropy in buggy lines of code.

Machine Learning Research Intern — **June 2020 – August 2020**
Wichita State University — *Wichita, KS*

- Utilized Python, TensorFlow, and Keras to build a malicious email classifier on a convolutional neural network, optimizing a final model for accuracy (98.1%), recall (98.1%), and precision (98.3%). [Publication Link]
- Developed prototype natural language generation software on top of OpenAI's GPT-2 to imitate victims while responding to malicious emails, aimed at wasting attackers' time.

Projects

Projectile Points Web Database | *TypeScript, Next.js, React, PostgreSQL, GraphQL* | GitHub Link

- Built and deployed a full-stack web app for arrowhead archaeological data, akin to Wikipedia.

Optimized Brainf* Lang Interpreter** | *C++* | GitHub Link

- Implemented pattern matching and peephole optimization to reduce instruction count in the Brainf*** language.

Skills

- **Languages**: Python, C++, TypeScript/JavaScript, SQL
- **Frameworks/Libraries**: React, Next.js, Node.js, GraphQL, Pandas, PySpark, Express
- **Cloud/DevOps**: AWS (EC2, S3, Lambda, EMR), Firebase, Databricks, Jenkins
- **Tools**: Git, Linux (RHEL, SUSE), PostgreSQL, Postman, Docker