Garrett Gu

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EDUCATION

Aug 2018 –
Dec 2023

B.S./M.S. Computer Science (Honors), B.S. Mathematics, *University of Texas at Austin*
- **GPA**: 3.99, member of Turing Scholars Honors Program
- **TA**: Computer Security (x2), Honors OS (x2), Honors Computer Architecture
- **Graduate coursework**: Computer Graphics, Program Synthesis, Advanced Cryptography, Cryptography, Reinforcement Learning, Topics in NLP, Advanced OS, Systems Verification, Automated Logical Reasoning, Computer Security
- **Undergraduate coursework**: Ethical Hacking, Virtualization, Honors AI, Computer Networks, Topology, Abstract Algebra, Number Theory

PROFESSIONAL EXPERIENCE

May 2023 –
Aug 2023
SF, USA

Apple, *Information Security Intern*
- Using **Python**, **SpaCy**, and **scikit-learn**, reduced human time on an internal process by **87.5%** by evaluating and implementing NLP algorithms to analyze security literature
- Implemented tf-idf, n-gram analysis, and state-of-the-art BERT fine-tuning to improve model
- Devised and implemented a prototype webapp for internal Apple developers using **Flask**, **JavaScript**, and **prompt engineering**

Oct 2022 –
Dec 2022
Liège, BE

Hex-Rays, IDA Pro, *Software Engineer Intern*
- Using **C++**, built **IDA Pro** feature to simplify Mixed Boolean-Arithmetic (MBA) obfuscated malware using state-of-the-art research algorithms and **SMT solvers** (**shipped** in v8.3)
- Implemented performance optimizations and heuristics, improving success rates and reducing runtimes by **68-93%** compared to previous cutting-edge solutions

May 2022 –
Aug 2022
SF, USA

Plaid, Data Security, *Software Engineer Intern*
- Using **Go**, automated AuthN/AuthZ certificate rotation in **AWS IAM** using a **Kubernetes** CronJob, allowing for a reduction in certificate validity period by **50%**
- Using **Go**, **Node.js**, and **Python**, designed and implemented performant cryptographic signing within a key-management service (KMS), enhancing product security for years to come

May 2021 –
Aug 2021
Remote

Praetorian Security, *Security Engineer Intern*
- Proposed and prototyped **GoKart**, a new open-source **Go** security code scanner (**SAST**) designed for vastly reduced false-positive occurrence (**2,000+** stars on GitHub)
- Conducted in-depth security audits and assessments on several Fortune-500 companies

May 2020 –
Aug 2020
Remote

Microsoft, M365 Core Security, *Software Engineer Intern*
- Trained an **ML recommendations system** for data-center access control with **scikit-learn**
- Final **C#** API implementation achieved **93% accuracy** benefiting **98%** of >1000 test users, saving an estimated **200 hours** of engineer time per year while improving security

May 2019 –
Aug 2019

The BHW Group, *Software Engineer Intern*
- Developed **Go/React Native** applications for medical information and school alerts

LEADERSHIP

Dec 2018 –
May 2022

UT Information and Systems Security Society, *Engineering Director*
- Created dozens of cybersecurity challenges for events with **>100** contestants on average
- Prepared and presented write-ups and talks over security techniques and best practices
- Authored novel challenges for a CTF attracting **>5,000** competitors from **>60** countries

SKILLS AND AWARDS

Languages
JavaScript, TypeScript, C, C++, SQL, Java, C#, Rust, bash, Python, WebAssembly, LaTeX, Verilog, Go, OCaml, x64/AArch64/RISCV64 Assembly

Tools
React, gdb, git, docker, Ghidra, PyTorch, scikit-learn

Competitions
1st Place CCDC SW Regional 2021
USACO Platinum Qualifier
2nd Place BSidesSF CTF 2022
1st Place TAMUHack CTF 2022
1st Place SunshineCTF 2019