Garrett Gu

✉ gu@utexas.edu ↖ https://garrettgu.com ⌂ @garrettgu10

PROFESSIONAL EXPERIENCE

**May 2023 – Aug 2023
SF, USA**

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

**Oct 2022 – Dec 2022
Liège, BE**

Hex-Rays, *Software Engineer Intern*
- Built and shipped **IDA Pro** feature to simplify Mixed Boolean-Arithmetic (MBA) obfuscated malware using **C++**, state-of-the-art research algorithms and **SMT solvers**
- Achieved superior success rates and **68-93%** reduced runtime compared to previous cutting-edge solutions through performance optimizations and heuristics

**May 2022 – Aug 2022
SF, USA**

Plaid, Data Security, *Software Engineer Intern*
- Reduced microservice certificate validity period by **50%** by automating AuthN/AuthZ certificate rotation in **AWS IAM** using a **Kubernetes** CronJob in **Go**
- Enhanced company-wide product security for years to come by designing and implementing cryptographic signing within a key-management service (KMS) using **Go, Python**, and **Node.js**

**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*
- Saved an estimated **200 hours** of engineer time per year and improved access security by training 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

May 2019 – Aug 2019

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

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

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, Go, OCaml, Verilog, x64/AArch64/RISCV64 Assembly

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

Competitions
1st - CCDC (Cyber-Defense) SW Regional 2021
USACO Platinum Qualifier
2nd - BSidesSF CTF 2022
1st - TAMUHack CTF 2022
1st - SunshineCTF 2019