

# Garrett Gu

✉ gu@utexas.edu 🌐 https://garrettgu.com 🐦 @garrettgu10

## EDUCATION

- 08/2018 – **B.S./M.S., Computer Science (Honors), B.S. Mathematics, University of Texas at Austin**  
05/2023
- **GPA:** 3.99, member of Turing Scholars Honors Program
  - **TA:** Computer Security, Honors OS, Honors Computer Architecture
  - **Graduate coursework:** Advanced Cryptography, Cryptography, Reinforcement Learning, Advanced OS, Systems Verification, Automated Logical Reasoning, Computer Security
  - **Selected undergraduate coursework:** Ethical Hacking, Virtualization, Honors AI, Computer Networks, Topology, Abstract Algebra, Number Theory

## PROFESSIONAL EXPERIENCE

- 05/2022 – **Software Engineer Intern, Plaid, Data Security**  
08/2022
- Automated AuthN/AuthZ certificate rotation using a K8s cron job, allowing for a reduction in certificate validity period by **50%**
  - Using **Go**, implemented state-of-the-art performant cryptographic signing support within a centralized cryptography service, with support for **Go**, **Python**, and **Node.js** clients
- 05/2021 – **Security Engineer Intern, Praetorian Security**  
08/2021
- Proposed and prototyped **GoKart**, a new open-source static application security testing (**SAST**) tool designed for vastly reduced false-positive occurrence (**2k+** GitHub stars)
  - Conducted in-depth security assessments on several Fortune-500 companies, developing exploits and communicating with clients
- 05/2020 – **Software Engineer Intern, Microsoft, M365 Core Security**  
08/2020
- Implemented an end-to-end **recommendations system** for data-center access control
  - Performed feature selection and model evaluation using **scikit-learn** and **MS SQL**
  - Final **C#** implementation achieved **93% accuracy** benefiting **98%** of >1000 test users, saving an estimated **200 hours** of engineer time per year while improving security
- 05/2019 – **Software Engineer Intern, The BHW Group**  
08/2019
- Developed **Go/React Native** applications for medical information and school alerts, contributing thoughtful code reviews, database schemas, and a new performant document storage format

## PROJECTS

- 06/2021 – **Ghidra-Wasm, Open-Source Reverse-Engineering for WebAssembly**  
present
- Developed first fully-featured WebAssembly plugin for **Ghidra**, a reverse-engineering framework maintained by the NSA, enabling full disassembly and decompilation
  - Collaborative fork of plugin currently in review for inclusion in Ghidra's default feature set
- 04/2019 – **OOPBoy, Game Boy Emulator**  
06/2019
- Built a state-of-the-art, fully-featured Nintendo Game Boy emulator in Java
  - Surpassed official Nintendo emulator in several CPU accuracy benchmarks

## ORGANIZATIONS

- 12/2018 – **UT Information and Systems Security Society, Co-President**  
present
- 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 several novel challenges for an international CTF attracting **>5,000** unique competitors from **>60** countries

## SKILLS AND AWARDS

### Languages

JavaScript, TypeScript, C, C++, SQL, Java, C#, Rust,  
bash, Python, WebAssembly, LaTeX, Verilog, Go, OCaml

### Tetris

Top 0.07% player on Tetris Effect Zone Battle

### Tools

React, React Native, gdb, git, docker, Ghidra

### Competitions

1st Place 2021 CCDC SW Regional  
2nd Place BSidesSF CTF 2022