

BRYAN TANG

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Education

The University of Texas at Austin

August 2023 – May 2027

Bachelor of Science in Computer Science and Mathematics Double Major

Austin, Texas

Minor in Business

GPA: 3.67/4.0

Relevant Coursework

- Data Structures
- Operating Systems
- Computer Architecture
- Algorithms
- Artificial Intelligence
- Machine Learning
- Linear Algebra
- Differential Equations

Experience

Hewlett Packard Enterprise

May 2025 – Present

Software Engineer Intern

Spring, TX

- Developed an open-source CLI tool in **Go** to query server information via the **Redfish API**, automating firmware vulnerability detection and improving efficiency by 300% compared to manual inspection workflows.
- Engineered 7 **Cobra** CLI commands to automate firmware auditing and validation, reducing auditing time by 40%.
- Architected a migration from a JSON datastore to an optimized **SQLite** database with advanced indexing, slashing firmware record lookup times by 65% and enhancing scalability for enterprise-level data processing.

Applied Research Laboratories

January 2025 – May 2025

Software Engineer Intern

Austin, TX

- Built a **Java Swing** application with asynchronous data fetching and JSON parsing to visualize real-time sensor data via **REST API** calls, cutting data retrieval time by 50%.
- Integrated geolocation mapping using a **gRPC** Middleware event listener, improving user decision-making accuracy in a maritime analytics tool.

PCOnline

May 2024 – August 2024

Software Engineer Intern

Newark, DE

- Designed a full-stack **Python** application with a **Tkinter** GUI to automate label generation for 6000+ returned products, scaling warehouse reconciliation processes and improving tracking accuracy.
- Engineered automated UI testers using Selenium for inventory management tools, decreasing testing time by 200%.
- Extended a **Bash** script to support creating, restoring, and backing up **PostgreSQL** databases in **Docker** containers to automate testing environment creation.

Projects

PISTASH-io Shell | C, C++

- Created a **POSIX**-compliant shell that supports 30+ commands, scripting, redirection, pipelining, and variables.
- Implemented a custom tokenizer and abstract syntax tree to parse logical operators and enable short-circuiting.
- Implemented background process support using `fork()` and `exec()` **System Calls**, enabling concurrent process execution and improving responsiveness under load.

Life Insurance Calculator | React, Node.js, Express, Tailwind CSS

- Developed a full-stack web application with a responsive **React** frontend and a **Node.js/Express** backend with **REST API** endpoints.
- Implemented efficient data validation and calculation logic on the backend, reducing server response time by 40%.

Operating System | C, C++, x86

- Implemented a minimal **Unix-like** operating system kernel in **C/C++** and **x86** assembly.
- Implemented core OS components including process management, **ELF** binary loading, **system call** handling, memory management (**VMM**), synchronization primitives (semaphores, barriers), and basic file system support (**ext2**).

Technical Skills

Languages: Python, Java, C, C++, HTML/CSS, Go, SQL, JavaScript, Bash

Technologies: Linux, Git, Docker, Kubernetes, REST API, Redfish API, AWS, PostgreSQL, SQLite

Concepts: Operating Systems, Computer Architecture, Systems Engineering, Software Engineering, Automation/Scripting

Work Eligibility: Eligible to work in the U.S. with no restrictions