

Samien Rahman

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EDUCATION

Bachelor of Science, Electrical and Computer Engineering May 2026

The University of Texas at Austin | GPA: 3.7

- **Relevant Coursework:** Computer Architecture, Embedded Systems, Circuit Theory, Data Structures, Linear Algebra, Differential Equations, Probability

SKILLS

Languages: C, C++, Python, ARM32 Assembly, Java, HTML/CSS, bash, LaTeX

Protocols: I2C, SPI, UART

Tools: KiCAD (Circuit Schematic and PCB Design), NumPy, Matplotlib, LTSpice, Git, Oscilloscope, Logic Analyzer

PROJECTS

USB-C Security Key | *Hardware Design, Cryptography, USB Protocol, C++* Jun. 2024. – Present

- Developing a cost-effective FIDO2-compliant security key with USB-C interface for 2FA using STM32 microcontroller and dedicated secure element chip
- Designing full PCB layout for compact, USB-powered device using KiCad
- Implementing I2C firmware in C++ to integrate cryptographic operations

Wireless Split Ergonomic Keyboard | *Circuit Design, PCB Design* Aug. 2023 – Jun. 2024

- Developed compact, reversible PCB layout using KiCAD, reducing manufacturing prices by 15%
- Interfaced Bluetooth using custom ZMK shield
- Programmed ZMK firmware to be deployed on Seeeduino Xiao nrf52840 development board

Astro Party Video Game | *C, C++, PCB Design, ARM32, Git* Apr. 2024 – May 2024

- Interfaced buttons, ADC, DAC, and an LCD screen to recreate Astro Party game on MSPM0+ microcontroller
- Implemented IO drivers in C and ARM assembly for LCD display over SPI and ADC
- Configured IO interfaces using GPIO for buttons, ADC slide potentiometer, DAC speaker, and LCD screen
- Leveraged edge interrupts and GPIO inputs for physics calculations in the game engine

Home Lab | *Linux, Python, Apache2, HTML/CSS, Git* Dec. 2023 – Jan 2024

- Repurposed old computer hardware into robust Linux server, managing over 10 services at once
- Programmed Python scripts to convert Markdown and LaTeX notes into suitable files for HTML conversion
- Securely managed terabytes of photography by self-hosting cloud storage, enabling photo sharing with clients
- Hosted web portals for multiple Minecraft servers running simultaneously on the same machine

EXPERIENCE

BIOS Firmware Engineering Intern Jan. 2025 – Present

Advanced Micro Devices

Austin, TX

- Incoming BIOS Firmware Engineering Intern at AMD

Undergraduate Research Assistant Sep. 2023 – Sep. 2024

Mid-IR Photonics Lab, UT Austin

Austin, TX

- Wrote Python program to collect data from optical signal capture system
- Analyzed datasheets, protocols, and circuit diagrams to troubleshoot system issues and optimize performance
- Implemented PyVisa to establish human-friendly interface between user and instruments

Mathematics Tutor May 2022 – Jan. 2024

Self Employed

- Delivered one-on-one math tutoring sessions for students from middle to high school
- Animated explanations using and Manim to assist students in building intuition of algebraic and geometric concepts
- Emphasized training problem-solving abilities of students, improving grade averages up to 20 points