Tianfang Guo

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EDUCATION

BSEE: Computer Architecture and Embedded Systems Track, *The University of Texas at Austin*, 2021 – Current
Overall GPA: 3.487/4.000
Courses: Computer Architecture, Digital Logic Design, Embedded Systems, Software Design & Implementation

EXPERIENCES

Command & Data Handling Team Lead, *Texas Spacecraft Laboratories*, Fall 2023
- Lead a team of undergraduate students in developing the C&DH system for the SERPENT CubeSat mission, overseeing tasks, providing guidance, and actively contributing to software and hardware development to ensure mission success.
- Serve as the primary liaison between the C&DH subteam, the other subteams, and project leadership.
- Represent the team during mission critical flight reviews, delivering presentations to project sponsors and ensuring transparency as well as accountability in the project development process.

Product/Test Engineering Intern, *Texas Instruments*, Summer 2023
- Designed and wrote a code generation script in python that led to a substantial improvement in efficiency during the new product development process.
- Reduced material testing time by analyzing test data and pinpointing potential possible improvements for the existing testing algorithm.
- Gained valuable experience collaborating with a diverse team of engineers in a fast-paced and dynamic environment, fostering effective communication skills and achieving successful project outcomes.

PROJECTS

Senior Design Project: *Computer Architecture Explorer,* Fall 2023 - Spring 2024
- Utilize gem5 to compute a wide selection of performance metrics by dynamically adjusting various components such as microarchitecture, memory/cache management, pipelines, and other key components.
- Design and create a software interface for students to explore performance data, allowing students to quickly and easily understand how changing parameters impact overall system behavior and performance.
- Foster important communication skills by collaborating with a multidisciplinary team over an extended period.

Computer Architecture: *LC3 Architecture Simulation,* Fall 2023
- Replicated the various elements of the LC-3b architecture by writing a simulator from scratch in C. These elements include an assembler, the ISA, the microarchitecture, interrupt and exception handling, virtual memory implementation, and pipelining.

Embedded Systems Design Lab Final project: *Laser Tag Game,* Spring 2023
- Collaborated with a team of fellow students to design and produce a fully functional and feature-rich multiplayer laser tag game, which interfaced many components such as IR sensors, OLED screen, etc.
- Designed a CAD model using Fusion 360 to serve as an aesthetically pleasing enclosure for the custom PCB and mount the various I/O interfaced to it.
- Voted as one of the top two winning projects at the UT Austin Embedded Systems Design Competition by both peers and professors.

SKILLS

Languages: C/C++, Verilog, Python, Arm Cortex-M Assembly
Software: EAGLE, Fusion 360, Xilinx Vivado, gem5, MS Office, Atlassian Suite (*Confluence/Jira/BitBucket*)
Proficiency with Computer Architecture, Compilers, Digital Logic, Software
Familiar with PCB Design, FPGA, RTL, Lab Equipment, ATE (*Teradyne J750*), Linux, GitHub, Microcontrollers