Tianfang Guo

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EDUCATION

BSEE: Computer Architecture and Embedded Systems Track, *The University of Texas at Austin*, 2021 – 2025
Overall GPA: 3.56
Courses: Computer Architecture, Digital Logic, Embedded Systems, Algorithms, Compilers, Operating Systems

INTERNSHIPS

Design Verification Intern, *Qualcomm,* Summer 2024
- Upgraded a Verilog testbench to a full-featured UVM SystemVerilog testbench, thereby enhancing scalability and reusability.
- Deepened understanding of real-world processor microarchitecture through hands-on work with cutting-edge designs, gaining valuable insights into hidden complexities and performance optimizations.

Product/Test 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
- Utilized gem5 and SimPoints to benchmark a wide selection of performance metrics by dynamically adjusting various components such as memory/cache hierarchies, pipelines, branch predictors, etc.
- Collaborated with peers to design and create an intuitive interface for students to explore performance data, allowing students to quickly and easily understand how changing parameters impact overall system behavior and performance.

Qualcomm HaQathon (2nd place): *Onboarding Buddy AI Chat Bot,* Summer 2024
- Worked with a group of 4 other interns to design, create and pitch an AI Chat Bot application to assist in onboarding new hires to the company; utilizing the Snapdragon X-Elite processor.

Embedded Systems Design Lab Final project (2nd place): *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.

Computer Architecture: *LC3 Architecture Simulator,* 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.

SKILLS

Languages: C/C++, Verilog/SystemVerilog, Python, Java, Assembly (Arm Cortex-M, MIPS), HTML/CSS/JS
Tools: Github, Git, Linux, EAGLE, Fusion 360, Xilinx Vivado, gem5, LLVM, UVM, Atlassian Software Suite, Agile
Topics: Computer Architecture, Compilers, Digital Logic, Software Design, Design Verification
Equipment: FPGAs, Lab Equipment, ATE (*Teradyne J750*), Microcontrollers