Roy Mor

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OBJECTIVE

Senior Bachelors/Integrated Masters ECE Student with experience in LLVM Compiler and Optimization Pass Implementation seeking a position in Compiler Development

EDUCATION

The University of Texas at Austin   Austin, TX
B.S./M.S. Electrical and Computer Engineering   *May 2025/2026*
- Overall GPA: 3.8
- Relevant Coursework: Computer Architecture, ML/HW Codesign, Compilers, Digital Logic Design, Embedded Systems, Software Design II, Linear Algebra, Algorithms

TECHNICAL SKILLS

Languages: C/C++, Java, Python, Verilog, SQL (Postgres), JavaScript, QML
Frameworks: LLVM, Flask, Angular
Developer Tools: Git, Docker, VS Code, Microsoft Azure Suite, Vivado, Keil, PostgreSQL, Milvus, Mbed Studio

PROJECTS

COOL Compiler | *C++, LLVM*   March 2024
- Wrote a compiler with the LLVM Framework for minimal, object-oriented language: COOL
- Implemented intermediate representation backedge and loop detection, as well as Loop Invariant Code Motion optimization

5-Stage Pipelined Processor | *C*   Dec 2023
- Implemented a 5-stage pipelined version of a 16-bit CPU in C capable of performing all ISA instructions
- Simulated variable-cycle length memory instructions and branch instructions causing pipeline stalls

RTL Stopwatch for FPGA | *Verilog*   Dec 2022
- Developed a programmable 4-digit stopwatch in Verilog and Vivado for an FPGA board

Solar Array Simulator | *Python, C, QML, Angular*   September 2022 – Present
- Created both QML and Angular front-ends that graphed incoming data from a characterizing PCB in real time
- Developed serial communications between the simulator and characterizing PCB for custom testing configurations
- Integrated characterization data for multiple cells with a clustering algorithm that determined and displayed matching cells

EXPERIENCE

Software Engineering Intern   May 2024 – Aug 2024
Amdocs   *Plano, TX*
- Developed a Retrieval Augmented Generation chatbot to improve employee workflow and provide rapid responses regarding proprietary products
- Maintained a Milvus VectorDB to store embeddings of ingested documents and a PostgreSQL DB containing user and chat data

Power Generation Lead   August 2021 – Present
Longhorn Racing Solar   *Austin, TX*
- Characterized, wrote firmware for a boost converter/Maximum Power Point Tracker, debugged switching node transient voltage spikes and implemented hardware protection and firmware optimizations to handle them
- Organized a 14-person team to manufacture solar panels, create embedded devices for power electronics and telemetry, and write simulators for photovoltaic performance
- Communicated with members to hit intra/intersystem deadlines while maintaining safety and efficiency standards
- Developed a new solar simulator to improve accessibility and utility for photovoltaic characterization and assembly

Teaching Assistant for Software Design II   August 2023 – May 2024
UT Austin   *Austin, TX*
- Provided office hours and recitations for students, teaching concepts such as object-oriented design, inheritance, and polymorphism