

THOMAS TRAN

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EDUCATION

University of Michigan College of Engineering

Ann Arbor, MI

Bachelors of Science in Computer Engineering

Aug. 2023 - Dec. 2025

- **Selected Coursework:** Introduction to Logic Design, Computer Organization, Introduction to Electronic Circuits, Introduction to Signals and Systems, Programming and Intro Data Structures, Digital Integrated Circuits

University of Michigan Dearborn

Dearborn, MI

Bachelors of Science in Computer Engineering

Aug. 2021 - Aug. 2023

- **Selected Coursework:** Computer Methods, Digital Systems, Technical Writing

TECHNICAL SKILLS

Languages: C++ 20, C 17, Python 3.11, Verilog, ARM, X86

Software: Microsoft Office, Cadence Virtuoso, SPICE, CAD, Matlab, Quartus, ModelSim

Libraries and Tools: CMake, GDB, JSON, openFrameworks

Technologies: Linux, Git, MacOS, Windows

PROJECTS

Register-transfer level Four Function Calculator - [LINK](#)

- Engineered a Verilog-based four-function calculator on a DE-115 board, processing 11-bit two's complement integers
- Implemented sequential design for operations, reducing computation time by 20% compared to combinational logic
- Applied digital systems design principles to solve Register-transfer level challenges

Traffic Light Controller - [LINK](#)

- Designed a complex traffic light controller system in Verilog, managing multiple scenarios and sensor inputs
- Constructed a finite state machine (FSM) to handle various traffic conditions and timing logic
- Optimized timing logic to control light durations and prevent traffic conflicts, improving overall system efficiency

Tail Light Controller

- Developed a sequential taillight controller using Quartus Lite, managing four distinct signal patterns
- Optimized state tables and equations using Logic Friday, reducing circuit complexity by 15%
- Conducted waveform analysis to verify system functionality across various operating conditions

Data Memory and Cache Simulator

- Built a CPU cache simulator in C++, accurately modeling processor execution of assembly-language programs
- Implemented caching algorithms to optimize memory access times, improving simulation efficiency by 20%

Mars Rover Project

- Led a team of four to design and construct a rover capable of traversing challenging terrain
- Utilized CAD software to create 3D parts, improving design precision and reducing prototyping time by 30%
- Programmed rover functions using Arduino, implementing adaptive control algorithms for various surface types

Audio Spectrum Analyzer

- Developed a C-based audio frequency analysis application using openFrameworks and Fast Fourier Transform
- Designed an intuitive graphical user interface, allowing real-time control of spectrum parameters
- Optimized audio processing algorithms, achieving a 25% improvement in real-time performance

EXPERIENCE

Kura Sushi Novi

Novi, MI

Server

Jul. 2022 - Mar. 2023

- Collaborated with a diverse 4-member rotating team to exceed monthly sales targets by an average of 5%
- Managed Point of Sales system with 99% accuracy, handling over 20 transactions per shift
- Resolved customer concerns efficiently, maintaining a 87% satisfaction rate based on feedback surveys
- Adapted to peak hour rushes, serving up to 20 tables per day while maintaining quality service standards