





Kidus Yohannes

New grad with experience in machine learning and software development

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WORK EXPERIENCE

Graphics Hardware Engineer

May 2022 – July 2023

Intel | Xe Arch – SysArch and Comp Analysis Team

San Diego, CA

- Implemented a key frame selection algorithm using **machine learning**
- Applied clustering and trained a **neural network** to abstract and compress GPU data
- Collected **PPA counters** for various workloads on **next gen GPU hardware**
- Analyzed the performance and proposed the **improved methodology** to outside teams
- Supported several additional projects such as **data collection, processing, visualization**, web scraping, web development, and database management

Software Dev Engineer

May 2021 – Aug 2021

Amazon | Devices – Alexa Auto Team

Santa Clara, CA

- Integrated **gesture control** and **facial recognition** within the Alexa Auto SDK app
- Trained a custom **TensorFlow** model to detect objects and hand gestures
- Made specific **API calls** based on the different objects and gestures detected
- Gesture controls were successfully integrated into the app and **enhanced the UI experience**

EDUCATION

M.S. Computer Engineering

3.7 GPA

December 2023

University of Utah

Salt Lake City, UT

- **Adv:** Computer Graphics, Digital VLSI, Computer Arch, Algorithms
- Image Processing, Parallel Prog, Test/Verif of Digital Circuits, CAD of Digital Circuits, Async Circuit Design

B.S. Computer Engineering, Honors

3.5 GPA

December 2021

University of Utah

Salt Lake City, UT

- Machine Learning, Computer Graphics, Digital VLSI Design
- Software Dev, Embedded Systems, Databases, Digital Circuits & Design, Computer Arch, Algorithms
- Honors Certificate – Minor in Music Tech – Deans List 2018, 2020, 2021

PROJECTS

Verification of Polynomial Division (C)

Test/Verif of Digital Circuits Final Project

Used the CUDD package to represent circuits as polynomial ZDDs and verified polynomial division using gröbner basis reductions

Reflective Shadow Mapping (OpenGL)

Computer Graphics Final Project

Implemented a shader that renders indirect illumination in a scene. This project involved storing the scene data, calculating lighting components, and a final demo.

Discord Music Bot (Python)

A Discord bot that plays songs from Youtube or SoundCloud through the voice channel. Implements common features like skip and queue. Coded almost entirely from scratch using Python and Discord's API.

Tetris (Verilog)

Computer Design Lab Final Project

Tetris programmed from scratch on an FPGA. Designed the CPU architecture, instruction set, assembler, NES controller, and VGA driver.

SKILLS

Languages: Python, C++, C#, Java, Javascript, Verilog/FPGA, OpenGL, MySQL

Tools: PyTorch, TensorFlow, Node.js, Docker, VLSI Synthesis: Cadence, Synopsis