KIDUS YOHANNES

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EDUCATION

Jan 2022	**Computer Engineering MS, University of Utah – 4.0 GPA**	Salt Lake City, UT
- April 2023	Relevant course work:	

- Adv. Digital VLSI Design, Adv. Computer Graphics, Quantum Computing

Aug 2018	**Computer Engineering BS, Honors, University of Utah – 3.7 Major GPA**	Salt Lake City, UT
- Dec 2021	Relevant course work:	

- Algorithms and Data Structures
- Computer Architecture & Design Laboratory
- Machine Learning, Computer Graphics, Database Systems
- Embedded Systems & Digital VLSI Design

EXPERIENCE

May 2022	**Intel, Xe Arch – Low Power GFX Team**	Santa Clara, CA
- Aug 2022	**Graphics Hardware Engineer Intern**	

- Training a model to perform key frame selection using GPU rendering metrics/data and PyTorch.
- Training an autoencoder to classify the frame images as additional input for the key frame selection.

May 2021	**Amazon, Devices - Alexa Auto Team**	Santa Clara, CA
- Aug 2021	**Software Dev Engineer Intern**	

- Integrated gesture control and facial recognition with the Alexa Auto SDK app using machine learning.
- Trained a custom TensorFlow model to detect objects and hand gestures. Gesture controls were successfully integrated into the app.
- Made specific API calls based on the different objects and gestures detected. For example, do not disturb was enabled when an open hand was detected. And having Alexa state what object was detected.

SKILLS/ACCOMPLISHMENTS

- Proficient in Python, Java, C#, C++, SQL, Verilog, Synthesis
- Dean's List (2020, 2021)

PROJECTS

- **Reflective Shadow Mapping (OpenGL) –** I implemented a shader that renders indirect illumination in a scene using this technique. This project involved storing the scene data, calculating lighting components using the algorithm, and putting together a final demo to show the final results.
- **Discord Music Bot (Python) –** A Discord bot that plays that plays songs from YouTube or SoundCloud through the voice channel. I used python and Discord's API to code the bot from scratch.
- **TL_DrBot (Python) –** Codechella 2020 Twitter Hackathon submission. This bot (@TL_DrBot) uses natural language processing to parse news articles, then calculates the occurrence of each word in the text. It then replies with a summary of the given news article, allowing users to quickly and easily digest the news. This bot is also designed to bypass paywalls on popular sites such as the New York Times, and Washington Post.
- **Tetris (Verilog) –** This project involved programming Tetris from scratch using assembly language, that ran on the Intel Cycle V FPGA board. I worked with 3 other members to design the CPU architecture, instruction set, and assembler to convert our instructions to machine code. This also involved integrating an NES controller for input and a VGA driver for display capabilities.