

Simon Renblad

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WORK EXPERIENCE

Software Engineer, M-Labs

June 2023 - Present

- Developed and integrated a waveform analyzer inspired by GTKWave into the ARTIQ dashboard using PyQt, pyqtgraph and asyncio.
- Ported Oxford-developed ndscan project to the new ARTIQ compiler. Compiles a subset of Python to run on RISC-V and ARM-based SoCs.
- Implemented serial communication support for CameraLink cameras with the ARTIQ quantum control system using Rust and digital logic design.
- Migrated Rust versions for artiq-zynq firmware, leading to a 46% speedup in RPC throughput when sending bytes and integer arrays.

Software Engineer Intern, BeNovelty

June 2022 - Jan 2023

- Developed APIs and websites as part of a HK Smart City project using AWS and pandas.
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EDUCATION

Hong Kong University of Science and Technology

August 2019 - May 2023

Bachelor of Engineering, Computer Science

- Achieved GPA: 3.4
 - Full Scholarship Student
 - Relevant course topics: C++, Python, Theoretical Computer Science, Algorithms
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PROJECTS

audioviz - live audio visualizer with shader support for Linux

- Written in PyQt6 with OpenGL. Processes and aesthetically displays live audio data from the system speaker, similar to CAVA.
- Features 2 built-in fragment shaders written from scratch.

asi_usb_driver - open source USB driver for ASI662MM astronomy camera

- Created simple, single threaded driver with minimal dependencies in Python for streaming and capturing image data.
- Reverse engineered existing drivers using Wireshark and Ghidra.

OtFlashcardViewer - Anki alternative using markdown files

- Simple flashcard viewer that does not require an account or internet connection and works on human readable files. Written with PyQt5.