JAKOB KOBLINSKY

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EXPERIENCE

Randox Antrim, County Antrim, Northern Ireland
Embedded Software Intern Jan 2024 – Apr 2024

- Co-maintained the Evidence Evolution—Linux, C++, parallel scheduling, clinical analysis robot; made impactful improvements with sparse information and minimal guidance
- Uncovered and patched fatal bug in Linux cron job; increased uptime by 10%
- Repurposed sensors and augmented task scheduling to gracefully handle irregular hardware fault
- Collaborated with operators to remove pain points in Qt GUI; modified data categorization; improved user efficiency
- Streamlined release management by integrating and educating on git-flow procedure

ARUP Toronto, Ontario, Canada
Software Intern Jan 2023 – Apr 2023

- Developed new features for MassMotion—C++, desktop application for 3D pedestrian simulation; routinely revealed alternative ways to write more meaningful code with modern C++20 features
- Built fast indent reformat feature for internal Python script editor to reduce code sharing friction for users
- Added live syntax error feedback to script editor using Tree-sitter to reduce edit-compile-test loop
- Improved maintainability of script editor search by isolating and unit testing main data structure (circular buffer)
- Demonstrated strong communication skills with praised end-of-term recap presentation

Evertz Burlington, Ontario, Canada
Embedded Systems Intern May 2022 – Aug 2022

- Validated and improved MIO-BLADE-Z21—Embedded, Linux, C++, Audio/Video Processing Device; became intimate with GNU tools and embedded Linux development
- Prototyped library with C++ templating and subject-observer pattern to simplify inter-process callbacks
- Researched and reported on latest IEEE video payload specs; confirmed compliance

Genellipse Mississauga, Ontario, Canada
Software Intern Sept 2021 – Dec 2021

- Co-architected live data dashboard; leveraged Python, and AWS Lambda for cost efficiency; eliminated reporting time
- Integrated GitLab CI/CD pipeline into dashboard development; allowed consistent error-free deployment

Demand Power Toronto, Ontario, Canada
Data Analysis Intern Jan 2021 – Apr 2021

- Implemented genetic algorithm in Python for battery use optimization; provided revenue stream insight
- Analyzed client energy data using Python Pandas and presented findings to COO; revealed carbon reduction potential

PROJECTS

- JLOX INTERPRETER Tree-walk interpreter in Java for the Lox language
- CLOX COMPILER Byte-code compiler and interpreter VM in C for the Lox Language
- LOVEBOXLINK Arduino, C++, live drawing board for intimate communication across the world
- Course Projects: FPGA Systolic Array, FPGA WAV Player, RTOS, HDL Compiler

EDUCATION

BASc Computer Engineering, University of Waterloo (3.4/4.0 CGPA, 3.8/4.0 Term GPA) Sept 2020 – Apr 2025

- Notable Courses: Compilers, Computer Networks, Reinforcement Learning, Distributed Systems