Trevor van Leeuwen

vanleeuwen.trevor@gmail.com
+1 (619) 885-3927

Work Experience

Qualcomm — Engineer, Linux Audio Software
C, C++, Python, C#   Apr 2019 – Present

Common Audio Driver (AudioReach)
Developed driver for signal processing framework common across all Qualcomm chips and OSes, as part of broad audio framework rearchitecture (AudioReach). This central component (GSL) abstracts the DSP interface to provide use-case level control APIs, and is the entry point to the new framework architecture

- GSL component maintainer: managed and guided contributions from globally distributed teams using internal open source model
- Balanced complex requirements of different OSes and platforms to create low-profile modular component with support for broad variety of device configurations
- Designed features needing interaction between many other components, ensuring features will work for novel device setups and adaptations

Tools & Mentorship
- Created debugging tool to log binary command packets and make them human-readable, with automatic error detection
- Trained members from device teams on GSL component to improve their ability to develop, and to improve use of internal open source workflow
- Mentored 3 interns and several new audio team members

Microsoft — File System Developer Intern
C, C++   Aug – Dec 2017
- Implemented dehydrated cloud file copy protocol, saving significant bandwidth and disk space when copying cloud-stored files
- Filed patent on the cloud copying technique

Magna International — Database Developer Intern
MySQL, VB.NET   Aug – Dec 2016
- Overhauled Defect Detection & Classification system backend to improve mean query time by a factor of 5
- Optimised job scheduling to reduce bottlenecks, allowing all defects to be tracked. Previously 15% of defects were not tracked

Projects

Chorus — Inexpensive High Quality Recording (Capstone)
Python, MATLAB, PyTorch, FASST
- Using machine learning and digital signal processing techniques, created a system to allow amateur musicians to record better quality vocals using cheap, available microphones (cell phones)
- Focused on applications for *a capella* groups, using source separation to allow independent mixing of voices recorded together

Education

University of Waterloo, Canada
- Bachelor of Applied Science, 2018
  Computer Engineering
  With Distinction

Technical Skills

Skilled	C/C++, SQL
Familiar	Python, Java, C#
Tools	Git, P4, GDB, Valgrind, Bash, Linux, Jenkins
Concepts	Embedded, Operating Systems, DSP, Power & Memory Optimization,

Interests

- Competitive sailor
- Leadership roles in Qualcomm's New Grad Network, UW Orientation Week, UW Grad Committee
- Nordic ski coach
- Calligraphy
- Fluent in English and French, basic knowledge of Dutch

Other Internships

Shopify   Jan – Apr 2016
Full Stack Developer Intern

TD Canada Trust   May – Aug 2015
Android Developer Intern

Nanometrics   Sept – Dec 2014
Firmware Developer Intern

Recognia   Jan – Apr 2014
Backend Developer Intern

Work Authorization

- H-1B valid through 2026
- Canadian citizen
- Irish citizen