Trevor van Leeuwen

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Work Experience

File System Developer, Microsoft

C, C++ Aug-Dec 2017

- Desgined & implemented end-to-end dehydrated cloud file copy protocol in **NTFS**, saving significant bandwitdth and disk space when a copy is issued on cloud-stored files (i.e. on OneDrive)
- Filed patent on the cloud copying technique
- Performance improvements for NTFS handling of primitives with cloud files (moves, deletes)
- Improved internal testing tools for cloud file systems, adding significantly more structure and easing integration of new features

Database Developer, Magna International

MySQL, VB.NET Aug-Dec 2016

- Overhauled Defect Detection & Classification system backend to improve mean query time by a factor of 5
- Optimised database server job scheduling to reduce performance bottlenecks, allowing all defects to be properly tracked. Previously 15% of defects were not tracked, negatively affecting ability of process & maintenance teams to fix problems

Full Stack Developer, Shopify

Ruby on Rails, MySQL Jan-Apr 2016

- Created mobile phone payment method for merchants in developing countries, especially those with low credit card penetration
- Improved resiliency of accounting software integrations (Xero & Intuit), reducing unhandled exceptions by 35%
- Created Postmates and UberRush local delivery integrations, allowing merchants to get product to customers within hours

Android Developer, TD Canada Trust

Java (Android), PostgreSQL May-Aug 2015

- Prototyped Android apps to explore new technologies applied to banking (e.g. internet of things)

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 readily available microphones (cell phones, laptops)
- Focused on applications for a capella groups, using source separation to allow independent mixing of voices recorded together

UW Autonomous Sailboat Team

Python

- Implemented autonomous path planning software, and created hardware automatic sail trim system for model sailboat. The boat will race with zero human input

Technical Skills

Proficient	C/C++, Java, SQL, Ruby on Rails
Familiar	Python, Perl, Bash, Verilog, Javascript
Tools	Git, LaTeX, GDB, WinDbg, Valgrind suite, OpenMP & OpenCL

Education

University of Waterloo, Canada

- Bachelor of Applied Science, Computer Engineering, 2018. With Distinction
- Key courses: Programming for Performance, Digital Signal and Image Processing, Computer Architecture, Embedded Systems, Computer Security, Operating Systems, Data Structures and Algorithms

Interests and Activities

- Leadership roles in UWaterloo Orientation Week, Engineering Society & Graduation Committee
- Competitive collegiate e-sports: Team co-ordinator for UW Heroes of the Storm, Team captain for Hearthstone
- Competitive sailor, avid cross-country skier, amateur saxophone player
- Fluent in English and French, basic knowledge of Dutch