

Colin Howes

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EDUCATION

MMATH - COMPUTER SCIENCE

UNIVERSITY OF WATERLOO

December 2018

GPA: 3.98 • CAV: 93 %

MSC - NEUROSCIENCE

UNIVERSITY OF GUELPH

December 2016

GPA: 3.98 • CAV: 94 %

SKILLS

PROGRAMMING LANGUAGES

C • Java • C++ • Python

TECHNOLOGIES AND TOOLS

Git • Linux • TensorFlow • Android
gRPC • Shell Scripting • \LaTeX

CONCEPTS

Distributed Systems • Security
Networks • Kernel Development
Artificial Intelligence

COURSEWORK

Empirical Performance Evaluation - 91%
Advanced Distributed Systems - 96%
Artificial Intelligence - 89%
Computer Networks - 96%
Computer Security and Privacy - 96%
Research Design and Statistics - 96%
Operating Systems - 91%
Algorithms - 89%
Data Structures 94%

EXPERIENCE

BLACKBERRY QNX

CORE OS SOFTWARE DEVELOPMENT STUDENT

Jan 2018 - Present | Kanata, ON

- Current intern on the kernel development team.
- Responsible for writing unittests and patches for QNX kernel code and the C standard library.

PERCEPTION TEAM CORE MEMBER

WATONOMOUS - SAE AUTODRIVE CHALLENGE TEAM

Sep 2017 - Present | Waterloo, ON

- Developed and trained an image classifier based on a convolutional neural network capable of classifying traffic signs using Python and TensorFlow.
- The trained model was capable of rapidly classifying images from 42 classes of traffic signs with 96 % accuracy.

GRADUATE RESEARCH ASSISTANT

UNIVERSITY OF GUELPH - DEPARTMENT OF COMPUTER SCIENCE

Dec 2015 - Dec 2016 | Guelph, ON

- Developed a survey platform backed by PHP and MySQL using AngularJS and Bootstrap at the front end.
- Designed in collaboration with a team of public health researchers to facilitate data collection from remote communities.

PROJECTS

ANALYSIS OF TCP BBR FOR DATA CENTRES [GITHUB](#)

- Assessed throughput and latency performance of TCP BBR as an alternative congestion control algorithm for data centres supporting latency critical distributed applications.
- Implemented a distributed network performance measurement tool in C++ capable of monitoring and coordinating concurrent connections from 40 nodes on a high speed cluster.

WATFS [GITHUB](#)

- Fault tolerant remote file system built on top of FUSE, using RPC as a communication mechanism.
- WatFS uses batched writes similar to NFSv3, and is capable of sustaining speeds fast enough to stream 4k video over WiFi.

IMPROVED INITIATIVE [GITHUB](#) | [GOOGLE PLAY](#)

- Developed an Android app to facilitate gameplay management for tabletop roleplaying games like Dungeons and Dragons
- Over 1000 users and a 4.2 star rating on the Google Play Store