



Alex McCallum

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Work Experience

BlueDrop

Systems Software Specialist

Halifax, NS

Oct 2018 - Current

- Developed various components in C++ to transform VBS game engine data for a VR military training platform.
- Reworked the component factory to dynamically load C++ game engine components at runtime, to optimize the development environment.
- Refactored the system's communication channels to improve the performance and structure of the channels.
- Developed an overlay UI framework from screen graphic primitives provided by the VBS game engine.
- Refactored legacy cross project user interface in QML to improve the efficiency of development through increased configuration and modularization.
- Created components and services for converting user actions into quantifiable learning objectives for the xAPI learning specification.

Ultra Electronics

Software Engineer Intern

Halifax, NS

Sep 2017 - Dec 2017

- Updated legacy code base, tests and configured the project to run in Docker and on Jenkins.
- Worked on various services of a highly configurable large scale C++ and Java microservice project managed by Supervisor with a JavaFX / Eclipse RCP UI.
- Created and optimized unit tests written in the C++ framework Gtest and acceptance tests written in the Python framework Robot.

Gracenote

Full-Stack Web Developer Intern

Halifax, NS

Jan 2017 - Apr 2017

- Implemented a new Node.js api working extensively with MongoDB to form complex aggregate queries.
- Created a data management tool in AngularJS for non-technical co-workers to manage clients website data across development environments.
- Debugged and maintained a code base with hundreds of sports widgets in AngularJS, Sass and Node.js using Webstorm.
- Created a custom AngularJS directive for implementing a performant scrolling table solution and tested for cross browser compatibility using BrowserStack.

CWD Law Inc.

Full-Stack Web Developer Intern

Halifax, NS

May 2016 - Aug 2016

- Worked in a startup environment where I was responsible for all aspects of the web app, such as the audio editing software in JavaScript, the site's design in CSS and the server in Django with a MySQL Database.

Education

Dalhousie University

Bachelor of Science, Computer Science Major

Halifax, NS

Sep 2012 - May 2018

- Dean's list during the 2014/2015 and 2015/2016 fall and winter semesters.

Additional Software Experience

Mozilla

Ucosp Research Student

Remote

Jan 2018 - Apr 2018

- Worked remotely with students from across Canada under the leadership of data scientists from Mozilla on an open source project to clean web API call data, quantify data leakage and mine for tracking techniques.
- Created a Jupyter notebook for extracting and cleaning data from storage/cookie related API calls using Pandas.
- Mined S3 record store of JavaScript web API calls using Spark on a Databricks Python notebook for cookie tracking techniques, such as Evercookies.

Skills & Interests

Skills: C++, Typescript, Golang, Python, Angular, HTML, CSS, Less, ImGui, Qml, Cmake, Visual Studio

Interests: Back-end development, Data engineering, Front-end development, Chess, Rock climbing