Brett Selby

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Skills

Languages

Proficient

Python • C • C++

Experienced

JavaScript • Java

Learning

C# • LaTeX

Tools & Frameworks

Proficient

HTML • CSS • Git • Qt

Experienced

jQuery • Android

Learning

React • MongoDB

Education

Honours Software Engineering, 2A
University of Waterloo
2017 - 2022 (Anticipated)

Experience

May 2018 - Sep 2018	**Junior Full Stack Developer**	RouteThis

- Implemented SMS referral links for Android app using Firebase Dynamic Links
- Created interactive world map using SVG.js and CSS animations
- Made Android build variants for different app themes and functionality
- Added features to the RouteThis Android app including front-facing camera support and customising the paste functionality for in-app text inputs
- Fixed various bugs on the front-end and back-end of the web dashboard
- Made Python script to extract information from XML file and format it into JSON
- **Android, Node.js, MongoDB, Firebase, Java, JavaScript**

Oct 2017 - Present	**Controls Team Member**	University of Waterloo Nanorobotics Group

- Added real-time magnification and rotation capability to camera display
- Created UI for camera feed window including framerate indicator and sliders to control magnification and rotation
- Modified Arduino code to allow the pulse power and length to be adjusted through the UI, implemented sliders to control pulse length and power
- **Qt, Arduino, C++**

Projects

Jun 2017	**Messenger LaTeX**	MHacks Nano

Chrome extension which uses MathJax to render LaTeX in Facebook Messenger
- Won 1st Place at MHacks Nano
- Created listener to detect network events such as sending and receiving message
- Implemented message passing to transfer information between different parts of the extension
- **MathJax, JavaScript**

Sep 2016	**Random Pomodoro**	GitHub

Web application which uses random timers to make time management more fun
- Designed interface with HTML and CSS
- Dynamically generates and animates a random sequence of images
- Created clock display which updates the page title as the clock counts down
- Built interface for modifying basic settings
- **Move.js, HTML, CSS, JavaScript**

Mar 2015 - Aug 2017	**Spark**	GitHub

Roguelike game with procedurally generated dungeons
- Developed method to procedurally generate dungeons using flowfill and maze generation algorithms
- Programmed game logic and enemy behaviour including A* pathfinding
- **BearLibTerminal, Python**

Aug 2018 - Present	**Hebi (In progress)**	GitHub

Modified Python interpreter that can interpret Python written with Japanese keywords.
- Edited the C and Python parsing code, added code to allow for Unicode keywords
- Modified Python grammar
- **C, Python**