

# BRENDAN HOLMES

☎ 647-331-9473  
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🏠 beholmes.com  
🐙 github.com/brendanholmes

## SKILLS

### Embedded computer systems:

- Proficient in C/C++, VHDL
- Familiar with Java, C#, JavaScript, System C, Verilog, MIPS and ARM assembly
- Windows, Linux, Android, real-time custom operating systems
- Eclipse, Altera Quartus, ModelSim, Microsoft Visual Studio

### Image processing:

- Proficient in MATLAB programming
- Knowledge of image enhancement using filters
- Edge detection and image segmentation

### Digital hardware design:

- FPGA design using VHDL and Verilog
- Performance and area optimisation, Data flow diagram design and pipelining, State machine design and optimisation, Using Altera Quartus, ModelSim and Precision RTL

### Web development:

- Familiar with HTML5, CSS3, JavaScript, JQuery
- Embedded software, Mobile web applications, Object-oriented programming, Storyboarding and requirements analysis

### Electronics:

- Op-amp and transistor circuits, Second-order RLC circuits, Oscilloscopes, Electromagnetism and radio-frequencies, Materials science and design
- Circuit modelling and analysis with LTSPice

### Project management:

- Version control, Reports and documentation, Flow charts, Verification and validation
- Task management and team communication

## EDUCATION

**University of Waterloo**, Waterloo ON, Canada

*Jan 2017 – Apr 2017*

- Exchange program for electrical and computer systems

**Monash University**, Melbourne VIC, Australia

*Mar 2015 – Nov 2018*

- Candidate for Bachelor of Engineering (Electrical and Computer Systems), Honours

**University of Melbourne**, Waterloo ON

*Mar 2010 – Nov 2013*

- Bachelor of Arts (Media and Communications)

## PROJECTS

Multicore compression-decoder embedded system (2017) [🔗 beholmes.com/#projects/](https://beholmes.com/#projects/)

Superpixel algorithm based on k-means clustering implementation (2017) [🔗 beholmes.com/superpixel/main.html](https://beholmes.com/superpixel/main.html)

Performance and area optimized Kirsch edge detector in hardware (2017) [🔗 beholmes.com/#projects](https://beholmes.com/#projects)

Run tracker mobile web application for Android (2015) [🔗 beholmes.com/projects/run-tracker/index.html](https://beholmes.com/projects/run-tracker/index.html)

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## WORK EXPERIENCE

**Student welfare officer - Monash Student Association**, Melbourne VIC, Australia Dec 2015 – Dec 2016

- Managed a portfolio of student services and advocacy campaigns
- Worked with Monash University administration to deliver lighting installation for student safety
- Worked with volunteers and suppliers to deliver over 5,000 main meals at a unit price of under a dollar
- Reported to and voted at Monash Student Council meetings to decide on direction of the organization

**Flow monitoring technician - American Digital Systems**, Melbourne VIC, Australia Aug 2014 - Mar 2016

- Installed and tested sensors for underground water system flow monitoring
- Disassembled hardware and tested batteries
- Managed the warehouse and ordered stock
- Working within Occupational Health and Safety regulations