# Natalie Smith | Developer

2446 Sinclair Rd – Victoria BC – V8N 1B3

☎ +1 (250) 216 8268     •     ✉ smithnm@uvic.ca     •     🖥 www.nataliesmith.ca

## Education

**University of Victoria**                                                                                        **Victoria BC**

*B.Eng, Biomedical Engineering*                                                                              *2011–2016*
Specialization in Mechatronics

## Key Competencies

○ Hands on experience with leading edge software development and database technologies including C/C++, C#, Java, Ruby on Rails, Javascript, Angular2, HTML5, CSS3, MySQL, and MatLab
○ Experience writing test plans, creating test cases and writing functional unit tests
○ Experience with the project development life cycle and navigating through various stages of development in a team setting
○ Self-starting, independent worker with the willingness and work ethic to learn new technologies and skills
○ Extensive experience with customer service and practical problem-solving as well as exceptional written and verbal communication skills

## Experience

**University of Victoria**                                                                                        **Victoria BC**

*Undergraduate Researcher*                                                                                  *May–Aug 2015*
Worked in the Crystal Growth Laboratory designing a new control system for a 30 zone crystal growth furnace.
○ Ran experiments on the crystal growth furnace including material preparation, furnace loading, and sample testing using a Scanning Electron Microscope
○ Designed an implemented a fuzzy PID control system in LabView with adaptive control for the crystal growth furnace

**University of Victoria**                                                                                        **Victoria BC**

*Undergraduate Researcher*                                                                                  *Sept–Dec 2013*
Worked in the Biomedical Design and Systems Laboratory developing a medical phantom for use in testing and calibrating an ultrasound-controlled hand prosthesis.
○ Designed and developed a medical phantom representing the ultrasonic properties of the tendon-hand system
○ Tested prototypes and determined ultrasonic properties of materials
○ Used an Ultrasonix ultrasound machine and MatLab to capture video and images of phantom prototypes

**Island Health**                                                                                                   **Victoria BC**

*Clinical Engineering Co-op*                                                                                *Jan–Apr 2013*

Worked in the Biomedical Engineering department of Island Health to assist in tasks such as device procurement and installation, cost analysis, preventative maintenance, and consulting with medical professionals.

- Assisted in medical device procurement and installation in hospital settings
- Performed cost analysis for major contract renewals
- Performed preventative maintenance on medical devices such as infusion pumps, defibrillators, and AEDs
- Consulted with medical professionals within multiple health networks across Canada in preparation for a networked fetal monitoring system

**Saanich Commonwealth Place**            **Victoria BC**

*Team Leader, Facility Attendant*            *2011–Present*

Work in supervisory roles as a Team Leader and Facility Attendant to oversee multiple staff and ensure that programs are running safely and effectively.

- Team Leader: Directly supervise a team of lifeguards to ensure safe pool coverage, oversee first aid situations, mediate public relations situations and provide excellent internal and external customer service
- Facility Attendant: Responsible for overseeing all facility programs, coordinating and providing back-up for all staff and conducting emergency procedures in case of emergencies

## Technical Projects

**Web Development**: Experience with full stack development using Ruby On Rails, MySQL, Javascript, Angular 2, unit testing, HTML5 and CSS3 to create responsive web applications

**Mechatronics**: Designed the firmware to accomplish a conveyor belt sorting task

- Integrated multiple sensors, actuators and motors with a microcontroller programmed in C

**Neural Networks**: Designed a neural network to classify data instances in an online breast cancer database as malignant or benign

- Used MatLab to implement a three-layer feedforward neural network to automatically classify instances of breast cancer malignancy

**Biomedical Image Processing**: Solved task of retinal vessel segmentation in retinal images by using MatLab to implement adaptive local thresholding by multithreshold probing

## Technical Skills

- C/C++
- Java
- Angular 2
- Ruby on Rails
- C#
- MySQL
- HTML5/CSS3
- Javascript/jQuery
- MatLab
- Unit Testing
- JSON/XML
- .NET
- Responsive Design
- Version Control

## References

| Dr. Nikolai Dechev | Dr. Kelly Stegman-Brooks | Michael Sheehan |
|---|---|---|
| Associate Professor University of Victoria Biomedical Design and Systems Laboratory 250-721-8933 | University of Victoria Biomedical Design and Systems Laboratory kstegman@uvic.ca | Program Technician Saanich Commonwealth Place 250-475-7607 |