

# Natalie Smith | Engineer

2446 Sinclair Rd – Victoria BC – V8N 1B3

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## Education

### University of Victoria

*B.Eng, Biomedical Engineering*  
Specialization in Mechatronics

**Victoria BC**

*2011–2016*

## Key Competencies

- Hands on experience with leading edge software development and database technologies including 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

*Undergraduate Researcher*

**Victoria BC**

*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 and implemented a fuzzy PID control system in LabView with adaptive control for the crystal growth furnace

### University of Victoria

*Undergraduate Researcher*

**Victoria BC**

*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

*Clinical Engineering Co-op*

**Victoria BC**

*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**

*Team Leader, Facility Attendant*

**Victoria BC**

*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 microcontroller in C to accomplish desired tasks

**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
- Put neural network through training, validation, and test stages 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++         | ◦ Javascript/jQuery |
| ◦ Java          | ◦ Angular 2         |
| ◦ MatLab        | ◦ Unit Testing      |
| ◦ Ruby on Rails | ◦ JSON/XML          |
| ◦ MySQL         | ◦ Responsive Design |
| ◦ HTML5/CSS3    | ◦ Version Control   |

## **References**

**Dr. Nikolai Dechev**

Associate Professor  
University of Victoria  
Biomedical Design and Systems  
Laboratory  
250-721-8933

**Dr. Kelly Stegman-Brooks**

University of Victoria  
Biomedical Design and Systems  
Laboratory  
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**Michael Sheehan**

Program Technician  
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## Ocean Networks Canada

March 22, 2017

University of Victoria  
PO BOX 1700 STN CSC  
Victoria, BC  
V8W 2Y2

Dear Sir or Madam,

I am writing to apply for the position of Junior Software Testing Engineer (992406) at Ocean Networks Canada. I graduated with a Bachelor's degree in Biomedical Engineering and have been passionately pursuing software development challenges through academic electives, co-op positions, and personal projects.

I have experience with full-stack web development using a variety of web development technologies such as HTML5/CSS3, Javascript, Angular2, Ruby on Rails, and MySQL. Through this experience I have gained familiarity with database design and service-oriented architecture. Additionally, I have extensive experience testing and debugging software as well as designing test cases and writing unit tests. I understand the extreme importance of designing software to identify potential problems and improve testability.

My wide-ranging work experience has given me the ability to work effectively within a team setting while also being a motivated, proactive and self-starting independent worker. I value clear written and verbal communication to ensure projects are completed efficiently. I also have excellent problem-solving skills which allow me to deal with the unknown and unexpected. I am extremely resourceful with the willingness and work ethic to learn new technologies and skills in the ever-changing field of software development.

I believe that my experience, drive and passion for learning and hard work would make me an excellent addition to your team as a Junior Software Testing Engineer. I look forward to following up to this application.

Sincerely,

**Natalie Smith**

*Attached: Resume*