

# Bowen Song

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www.github.com/Bowenislandsong

## Education

### Boston University, College of Engineering

*Master of Science in Electrical and Computer Engineering, GPA 3.5/4.0*

Core Courses: Project Design, Advanced Data Structure, DSP

**Boston MA**

*August 2019 Expected*

### University of Victoria, College of Engineering

*Bachelor of Engineering in Electrical and Computer Engineering, GPA 8.0/9.0*

Core Courses: Digital Signal, Image, and Video Processing, Optimization, Control System Design, Error Control Coding, Pattern Recognition, Wireless Communication, Radar

**Victoria BC, Canada**

*August 2017 Graduated*

## Technical Skills

**Fluent Programming Languages:** Java, C++, MATLAB, Latex, C#, HTTP, VB.NET, Python, CAPL, XML

**Software:** IntelliJ, Visual Studio, Wireshark, PuTTY, DB2, IBM Domino, MAXIMO, R, MEFiSTo, MATLAB, GNURadio, Xilinx, LT Spice, CANoe, Trello

**Operating Systems:** Apple OS, Windows XP/7/10, Linux, Android

**Equipment:** Oscilloscope, Multi-meter, Signal Generator, USRP transceiver, Spectrometer

## Software Experience and Projects

### ISM Canada - An IBM Company, Department of Technology Engineering Service

*Software Developer*

**Victoria BC**

*May - Aug. 2016*

- Developed software alongside a fully functional team of eight professionals and enlisted in life cycles of multiple software development process including sprint planning, implementation, and bug-fix maintenance
- Created IBM Lotus Notes/Domino Reader, and scheduled Maximo Database Tracker
  - **IBM Lotus Notes Reader (VB.NET)**
    - Monitored IBM notes email and updated data base
    - Developed the project starting from gathering changed new requirements to design and develop the program till publication
  - **Maximo Database Tracker (VB.NET)**
    - Automated reporting procedure for scheduled querying in Maximo database

### Western Digital Corporation, Firmware Laboratory

*Software Trainee*

**Ayutthaya, Thailand**

*Sept. - Dec. 2015*

- Worked with product testing team on product firmware reliability tests and focused on designing software program replacing manual firmware update testing procedure
  - **Automated Product Firmware Update Testing Software (C++)**
    - Developed firmware product testing software with help from supervisors and co-workers inside Firmware Lab
    - Designed a C++ program to replace manual involvement in branded product reliability testing, which built multiple connections for controlling and monitoring the unit under test
    - Software follows testing procedure, recalibrates UUT during error incidents, and reports testing result

## Software Projects Available on Github

### Distributed Computing (Python & Java)

*Github: Bowenislandsong/Distributivecom*

*Sept. - Dec. 2017*

- Lead a group of 7 to create a Distributed Computing Environment for public via web application
- Investigated Docker, Ray Project, Spark, TCP, Socket, Apache, and AWS Server

### Machine Learning Language Checker (Java)

*Github: scelesticsiva/project\_ec504*

*Oct. - Dec. 2017*

- Implemented N-Gram model checking for proper language usage and made available for Android
- Cooperated with group of five and investigated Hashmaps, B-trees, trie data structure, and performance enhancement options

## Smart Data Splitter (Java)

*Github: BowenIslandsong/DataSplitterNUnpacker*

Oct. - Nov. 2017

- o Developed an application capable of unpacking and splitting datasets with folder hierarchy maintained

## Electrical Engineering Experience and Projects

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**HELLA Innenleuchten-Systeme GmbH, Department of D-LAB (Light Lab)**

**Wembach, Germany**

*Electrical Engineering Praktikant*

*May - Aug. 2017*

- o Developed software for managing company resource capacity
  - **Capacity Managing Software (C++)**
    - Developed smart program for managing company resources and designed custom server database
    - Created user-friendly collaborative system
  - **LIN Communications and Product Quality Control (CAPL)**
    - Developed Body Control Modules for RGB module over Vector CANoe
    - Designed automated Quality Control testing system
    - Investigated LIN BUS Network Communication
  - **Spectrometer Reader (C#)**
    - Automated light guide quality check procedure
  - **Overhead Console Tester Box**
    - Built logic box for manually testing all features on overhead console unit

## Research Experience

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**University of Victoria, Department of Electrical Engineering**

**Victoria BC, Canada**

*Undergraduate Researcher, Propagation Laboratory*

*May - Aug. 2017*

- o Implemented SDR Radar System with DSP enhancement
- o Focused on LFM Radar and Time Compression-Overlap Add DSP technique
  - **Enhanced LFM Radar (Simulink, MATLAB, & Python)**
    - Developed low power LFM Radar with SDR for aerial vehicle management system in a team effort
    - Cooperatively investigated novel N-signal enhancement by combining multiple known radar waveforms
    - Implemented TC-OLA DSP improvement
    - Experimented Doppler effect cancellation scheme

## Electrical Engineering Project

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**Automated Cell Image Segmentation and Edge Detection Algorithm (MATLAB)**

**Victoria BC, Canada**

*Paper Available at: [cvweb-abadc.firebaseio.com](http://cvweb-abadc.firebaseio.com)*

*2015*

- o Customized segmentation algorithms to isolate overlapped cells in Pap smear image
- o Acted strictly according to the following three steps:
  1. enhance the characteristic of nucleus and cell edges with Bi-group enhance approach
  2. trace the contour of cell edge with Cytoplasm Contour Detection Approach
  3. trace the contour of nucleus edge within each cell with Nucleus Contour Detection Approach

## Community Involvement

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**University of Victoria, Global Community Mentorship Program**

**Victoria BC, Canada**

*Global Community Mentorship*

*Sept. 2014 - May 2015*

- o Helped the international students prepare and acclimate to Canadian culture

**The Mustard Seed Street Church**

**Victoria BC, Canada**

*The Mustard Seed Hunger Fighting*

*Sept. 2013 - May 2014*

- o Prepared and served food on weekends for people in need

## Additional Skills

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Occupational First Aid Level 1, APEGBC Student Member, Municipal TaiChi Master, Level 10 Piano Certificate, Olympic Second Level Swimmer, Triathlon Enthusiast.

## Reference Available Upon Request

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