

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

Victoria BC

Software Developer

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

Ayutthaya, Thailand

Software Trainee

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

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

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

Automated Cell Image Segmentation and Edge Detection Algorithm (MATLAB)

Victoria BC, Canada

Paper Available at:

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

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

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
