

# HAO JIN

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## EDUCATION

### University of Waterloo

Candidate for Bachelor of Mathematics in Mathematical Studies - Business Specialization  
Minor in Computer Science and Economics

Sept. 2014 - Current

## SKILLS

**PROGRAMMING LANGUAGES:** Java, C/C++, Python, HTML & CSS, Javascript

**FRAMEWORKS & TOOLS:** Android Studio, Arduino IDE, Racket Scheme, JIRA, Github, Gerrit, Git, Bootstrap, Azure, Node.js, Express, MySQL, Three.js, Blender

## WORK EXPERIENCE

### Deloitte

*Business Technology Analyst, Industry Solutions, Toronto, ON*

May 2019 - Aug. 2019

- Supported the Applied Innovations team through developing a full stack PoC solution that showcased the capabilities and applications of Digital Twins.
- Developed an environmental data simulator in Python that utilized the MQTT protocol and Azure Event Hubs library to send messages to Azure Cloud.
- Deployed Digital Twins and corresponding spatial topology, IoT Hub, and Event Hubs endpoints on Azure Cloud to relay simulated data.
- Constructed a backend using Node.js and Express, which consumed and processed data from Azure resources, performed MySQL CRUD operations to ClearDB, and handled API calls from a front-end using concurrent programming strategies.
- Developed a front-end in vanilla HTML & CSS, Bootstrap, Javascript, Three.js, and Blender that rendered 3-D representations of digital assets and periodically piped in data from a back-end to dictate objects' behavior.
- Drafted PoC storyboards and designed UI components with Adobe XD.
- Researched and participated in team discussions regarding Digital Twin applications, IoT, Industry 4.0, and PoC development decisions and developed a foundational consulting and business acumen.

### BlackBerry Limited

*Android Software Development Student, Waterloo, ON*

May 2018 - Aug. 2018

- Debugged UI/UX, social integration, and data manipulation issues for BlackBerry Hub.
- Implemented solutions with emphasis toward OOP concepts, Android activity lifecycle, and code base architecture, while exercising Agile methodologies.
- Manually tested bug fixes and modified existing and introduced new test cases for solutions with Robolectric and Mockito.
- Advanced understanding of developing lean and efficient code through analyzing, receiving, and providing code reviews through Gerrit.
- Proactively reported problems and improvements through testing BlackBerry's PIM apps' beta releases.

### SunPillar Inc.

*Lead Android Application Developer, Brampton, ON*

May 2017 - Sept. 2017

- Developed an Android application that receives and displays environmental data from local Arduino appliance with Bluetooth.
- Designed the GUI using Adobe Photoshop CC.
- Implemented Google Maps API to assist consumer debugging and troubleshooting through geo-tagging images.
- Employed Google Speech Recognition API to provide user's with an additional method of navigation within the application and to improve its manageability.

*Lead Embedded Software Developer, Brampton, ON*

Jan. 2017 - Apr. 2017

- Built a complete prototype system of an environmental data collection and processing appliance using Arduino micro controller boards, various sensors, and data storage and communication modules.
- Programmed Arduino prototype's sensor fusion processes with C/C++ scripts using Arduino IDE.
- Integrated Bluetooth communication protocols to wirelessly transfer data from appliance to remote Android application.
- Modified C/C++ libraries to ensure successful cross-platform compatibility on different micro controller boards.
- Troubleshooted Serial and Bluetooth data transfer and local data storage problems through research, and rigorous testing of associated C/C++ scripts.
- Developed a thorough understanding of various schematics to perform appropriate hardware modifications on micro controller modules.
- Assisted in the production of interposer boards through drafting schematic diagrams using Fritzing.

### The Co-operators General Insurance Company

*Operational Accounting Summer Student, Guelph, ON*

July 2015 - Aug. 2015

- Updated and balanced reconciliations using data extracted from Oracle Business Intelligence database and external reports.
- Troubleshooted situations through proactive thinking and teamwork.

*Regulatory Reporting Summer Student, Guelph, ON*

May 2015 - June 2015

- Tested various insurance companies' Property & Casualty Report pages using queries in Budget Planning Control and MS Office Excel.
- Enforced Property & Casualty Report pages' tests with financial formulas and calculations.
- Documented procedures and conclusions on tests conducted for pooling.
- Created reconciliation supporting Excel files from Claim Center database for monthly reporting to OSFI.