Jonathan Chong

Phone: (403)-472-2006 | **Email:** jonathanchongyyc@gmail.com | **School Email:** jonathan.chong@ucalgary.ca
LinkedIn: www.linkedin.com/in/jonathanchongyyc | **GitHub:** www.github.com/wcjona

Education

Bachelors of Science in Software Engineering, Biomedical Engineering Minor Sept 2019 – May 2024
Schulich School of Engineering | University of Calgary

- **Awards:** Dean's List x 3 (2019 – 2022), Biomedical Engineering - Schulich School of Engineering Award (2021)
- **Grade Point Average:** 3.71/4.0

Skills

- **Languages:** Python, Java, C++, HTML, React, Javascript, Swift, SQL, CSS/SCSS, LaTeX
- **Libraries/Frameworks:** Node.js, Bootstrap, Junit, Pytest, Swing, TensorFlow, Keras
- **Developer Tools:** MySQL, GitHub, Gerrit, VSCode, Android Studio, Docker, Linux, Xcode, Microsoft Azure DevOps
- **Strongest Attributes:** Communication, Teamwork, Driven, Detailed, Passionate, Loyal, Detailed, Adept Learner

Work Experience

Software Engineering Intern Jan 2022 – Dec 2022
Garmin Ltd. *Olathe, KS*

- Identified critical bugs and improved **Bluetooth Low Energy (BLE)** and **ANT** connectivity for over **20 released products**
- Contributed to developing a **low-level Python module** capable of sending commands and receiving critical information for all Garmin products which is an ongoing dependency in **+6 repositories** and actively used by over **50+ Engineers**
- Developed the caching and communication infrastructure for an inter-test processing program using **Python** and **REST APIs** to replace manual effort and improve process efficiency by approximately **20%**
- Automated crucial verification tests between sensors and products for various **wireless sensor network protocols** using **C++**
- Refactored and added compatibility features to support **Android/iOS devices**, Garmin Golf, and Garmin Explore **mobile apps** using **Appium** and **Pytest,** increasing our automated test coverage by over **60%**
- Created **unit test** and **pre-commit hooks infrastructure** for **3 services** using **Pytest mock and Unittest patch** libraries
- Designed and developed multiple **QA tools** including a phone and Garmin device compatible log collector and an automated time stamp tool using Python, saving **~5 hours** of manual work for every acceptance test plan
- Established and deployed an **instant notification app** using **Kotlin, Java,** and **Android Studio**, reducing testing time by **~50%**

Software Developer Jan 2021 – Oct 2021
iGEM Calgary *Calgary, AB*

- Developed **random forest model with nested cross-validation** to create kinetic rate constant predictions of a specific protein-ligand interaction with **~95%** accuracy
- Created **convolutional neural network (CNN) layered with a long short-term memory (LSTM) model** to predict calcium-binding domains in a protein-based on sequence with **98%** accuracy
- Characterized novel proteins using **molecular dynamics,** and **structure prediction algorithms** (homology, ab initio, and **rosettafold**) to increase binding efficiency by **15%**
- Invented a lumiencent-based biosensor capable of connecting to **android applications** via **BLE** using an EPS32 **microcontroller** for **under $100**

Projects

StudyHub: Connecting Students to Freelance Tutors Sept 2021 – Dec 2021

- Created a free **Fullstack** marketplace designed specifically to connect **+25 students and tutors** in a fast and secure way using **HTML, CSS, JavaScript**, and **Github Pages**
- Developed the backend infrastructure using **Node.js, Axios, Express, NoSQL,** and **Google Firebase** to complete **+100 bookings**

RentalApp: Rental Database Management System Sept 2021 – Dec 2021

- Created a convenient rental management program for the University of Calgary saving ~**10 minutes** from the check-in and checkout process using **Java** and **Java Swing**
- Designed **fullstack** application using a **model-view-controller design** with fully-capable database infrastructure using **SQL** to log **+400 transactions** from inventory.

Clubs

Vice President of Technology | Genetics & Genomics Club Sept 2020 – Jan 2022
President | Calgary Developer Student Club powered by Google Sept 2020 – Dec 2021
Vice President | Competitive Programming Club sponsored by Synopsys & Arcurve Sept 2020 – Dec 2021