

Jonathan Calvin Rimbun Sinaga

672-999-0070 | jonathancrsinaga@gmail.com | linkedin.com/in/jonathancalvin | github.com/JonathanCRS

EDUCATION

University of British Columbia

Sep 2024 – May 2028

B.Sc. in Computer Science

Vancouver, BC

- Cumulative GPA: 94.0/100; Dean's Scholar
- Relevant Coursework: Data Structures & Algorithms, Systematic Program Design, Computer Systems, Software Construction, Object-Oriented Programming

EXPERIENCE

Undergraduate Teaching Assistant — Systematic Program Design

Sep 2025 – Present

UBC Department of Computer Science

Vancouver, BC

- Guided 40+ students weekly in 3-hour lab sessions, helping them debug code and develop systematic problem-solving strategies
- Explained core programming concepts, including functions, data types, recursion, and program design, in a clear and structured manner

PROJECTS

Find My Force (Hackathon Project) | *Python, Flask, Socket.IO, Scikit-learn, SciPy, Leaflet.js*

Mar 2026

- Earned 2nd place at the UBC Defence Tech Hackathon in the RedTeamHackathon series and a \$6,000 team prize
- Co-built an end-to-end radiofrequency situational awareness platform that ingested live multi-receiver signal streams, classified emitters, geolocated sources, and displayed a real-time tactical COP dashboard
- Implemented ML-based IQ signal classification (friendly vs anomaly/hostile), multi-sensor geolocation (RSSI + TDoA), and Kalman-filtered persistent tracking algorithms with observation association

InsightUBC | *TypeScript, Node.js, Chart.js, Express, Mocha*

Jan – Apr 2026

- Co-built a full-stack REST API and web dashboard for exploring UBC historical course offerings and campus facilities, supporting a query/search feature and Chart.js data visualizations
- Refactored a monolithic Express app into a layered architecture (routes → controllers → services → repositories) with dependency injection, improving modularity and testability for the buildings/rooms API
- Implemented CRUD endpoints with pagination, centralized field validation, and result-style error handling, backed by integration tests using Mocha, Chai, and Supertest for HTTP endpoint testing

SafeMaps (Hackathon Project) | *React/Vite, Leaflet, Express.js*

Feb 2026

- Build a full-stack app (React/Vite + Leaflet frontend, Express backend) that computes and recommends the safest walking route in Vancouver instead of only the shortest path
- Integrated and processed VPD GeoDASH crime data and Vancouver street-lighting open data into a routing/scoring pipeline, then implemented a safety-ranking model that compares route alternatives by incident risk and lighting coverage
- Implemented a routing workflow using OSRM walking routes and delivered an interactive map UI using Leaflet.js for origin/destination search, and recommended-route visualization

Travelio (Hackathon Project) | *React, JavaScript, Amadeus API, Git*

Jan 2026

- Built a web application that identifies unusually cheap flights by comparing real-time prices against historical averages
- Designed a responsive React frontend to display top flight deals with loading states and dynamic rendering
- Collaborated in a team environment to integrate data from Amadeus Flight Offers API and define a scoring metric for deal ranking

TECHNICAL SKILLS

Languages: Java, Python, TypeScript, C/C++, JavaScript, R

Frameworks: React, Flask, Express.js, Node.js

Developer Tools: Git, REST APIs, OSRM, Jupyter

Libraries: pandas, NumPy, SciPy, Socket.IO, Leaflet.js, Chart.js