Jonathan Ung

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Education

Simon Fraser University Expected April 2027
Bachelor of Science in Computer Science and Statistics Minor *Burnaby, BC*

Experience

Software Engineering Co-op - Infotainment Applications May 2025 – Dec 2025
Rivian and Volkswagen Group Technologies *Vancouver, BC*

- Accelerated feature development by 20% by designing a scalable, custom Android MVVM-style framework, enabling faster iteration and testing of new UI features and business logic
- Improved analytics coverage in the media app by 50% by logging user actions, service errors, and authentication events, accelerating debugging and product decision-making
- Collaborated with integration QA developers to create automated tooling for reproducing, documenting, and isolating root causes, reducing time spent triaging bugs by 30%
- Crafted an automated deployment suite using Bash and Python for vehicle owner's manuals, reducing time spent publishing and testing by over 80%

Software Team Lead & Software Developer Feb 2024 – Present
SFU Robot Soccer Club *Burnaby, BC*

- Spearheaded development and planning of multi-agent robotic soccer software using C++ and Behavior Trees, enabling performant real-time decision-making and path planning for 6 autonomous robots
- Architected an asynchronous Navigator Command API with message-driven architecture and multi-threading, eliminating deadlocks and enabling smooth real-time robot navigation
- Deployed GitLab CI/CD pipeline with Docker build environment caching and multi-stage testing, cutting average pipeline runtime by 40%, while standardizing build and test workflows across Ubuntu runners

Software Engineering Intern - Mobile Applications Aug 2022 – Nov 2022
MVP IT Solutions *Remote*

- Engineered reusable Flutter UI widgets and optimized Firebase APIs through payload aggregation, reducing UI development time by 15% and API calls by 40%

Projects

YOLO Traffic Analysis - Vision Model Data Analysis | *PyTorch, OpenCV, Pandas, NumPy* Apr 2025

- Automated benchmarking of 3 YOLO vision model versions on 20,000+ labeled images, evaluating precision, recall, IoU, and F1-score to identify trade-offs and differences between each iteration of the model
- Streamlined modular evaluation pipeline using OpenCV for pre-processing, Pandas/NumPy for data handling, and Scikit-learn/MatPlotLib for statistical analysis, ensuring reproducibility across experiments

WeMote – Game Remote and Service | *ESP32, C++, Sensor Fusion, Sockets* Mar 2025

- Engineered a custom motion-sensing game controller using an ESP32, performing IMU-based sensor fusion and streaming data over USB in real-time to be used in conjunction with PyGame applications
- Implemented a serial-to-socket event bridge translating ESP32 sensor fusion outputs into real-time game controller events, enabling sub-30ms interaction with the PyGame server

Pignance - Finance Tracking Service | *Next.js, FastAPI, MongoDB, Docker* Oct 2024

- Built an OCR pipeline with PyTesseract and a LLaMA 3.1 interface to extract, interpret, and categorize receipt data, achieving a 97% text detection and classification accuracy
- Produced a scalable backend utilizing FastAPI, MongoDB, and JWT, implementing REST APIs for secure receipt storage, retrieval, and categorization across multiple users

Technical Skills

Programming: C++, Java, Kotlin, Javascript, Matlab, Python, R, Selenium, SQL, NoSQL, Docker, AWS
Web Development: React, Next.js, HTML, CSS, Spring Boot, .NET, MongoDB, PostgreSQL, Express.js, JWT
App Development: Android, Swift, SwiftUI, Jetpack, Flutter, Dart, React Native, Qt6, MVVM
Computer Vision: OpenCV, Open3D, Pillow, CNN/RNN, Classification, Detection, Feature Matching & Extraction
Machine Learning & Big Data: NumPy, PyTorch, Tensorflow, RL, Matplotlib, Pandas, Spark, Hadoop, Kaggle