Parshan Javanrood

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EDUCATION

University of British Columbia — Vancouver, BC
Bachelor of Applied Science in Computer Engineering, Minor in Mathematics — May 2026 (Expected)

- **Cumulative GPA**: 4.24/4.33 (92.8/100)
- **Coursework**: Software Construction, Algorithms & Data structures, ML and Data Mining, Operating Systems, Advanced Linear Algebra
- **Awards**: Trek Excellence Scholarship, Dean's Honour List(2021-22, 2022-23), Faculty of APSC Top Student Scholarship

EXPERIENCE

Software Developer Intern — Montreal, QC
Squarepoint Capital: *Global Investment Management Firm* — September 2024 - Present

- Build **automated ETL processes**, monitoring **data quality** and cleaning **time-series** data using **Python**, **Pandas**, **Streamlit**, and **Q**

Machine Learning Engineer Intern — Vancouver, BC
RBC Borealis AI: *Royal Bank of Canada Institute for AI Research* — May 2024 - August 2024

- Developed and maintained **back-end services** for **machine learning models** using **FastAPI** and **PostgreSQL**
- Designed and scheduled daily **Cron Jobs** on **OCP** to migrate over **45,000 transactions** to a **PostgreSQL** instance
- Implemented **load testing** with **Locust** and created **Grafana** dashboards for monitoring **model performance** and **service health**
- Created **ETL** pipelines using **Dagster** and **dbt**, transforming **7 million** records from **Clickhouse** and archiving it in **S3** as parquet files
- Developed a Dagster **asset factory**, dynamically integrating researchers' models into **workflows**, reducing **time-to-production** by **60%**

Software Engineer Intern — Vancouver, BC
Arista Networks: *Software-Driven Cloud Networking Solutions* — January 2024 - April 2024

- Designed **caching** mechanism using **Python** and **Redis** Database, seamlessly integrated with CLI via **Click** package
- Developed Python **test scripts** with **PyTest** and **Ansible** to enhance **IPv6** packet testing on a **Linux** cluster, boosting test coverage by **2%**
- Debugged and tested CLI feature integrating **Redis** Database to accurately count **TCP/IP** packets during **PFCWD** storm
- Optimized hardware interfaces across **300+ data centers** using **Python** and **I2C** protocol to prevent transceiver faults

Undergraduate Research Assistant — Vancouver, BC
UBC Cloud and Distributed Systems Lab (Link) — May 2023 - August 2024

- **Published** a **paper** on deploying complex serverless workflows, optimizing the carbon footprint, **accepted** to **SOSP 2024**
- Implemented a **monte-carlo simulation**, optimized its performance by **70%** using **Goroutines**, integrated with Python through a **custom IPC**
- Improved the performance of the solver by **90%**, using **Graph-based optimization** techniques

Software Engineer Intern — Vancouver, BC
NETINT Technologies: *VPUs for High-Volume Streaming* — May 2023 - September 2023

- Created a **full-stack web app** using **Flask, React JS, and SQLite** to showcase simulation results and compare the performance of codecs
- Automated the **collection, labelling, and cleaning** the data of more than **40,000 simulations** with **Python and SQLite**
- **Debugged and automated** the simulation process with Python, **Slurm**, and **Bash scripts** to run on **Linux** clusters, used by **150+ engineers**
- Designed experiment for collecting bitrate/complexity statistics from more than **800 videos** using **OpenCV**, **FFMPEG**, **Pandas**, and **Numpy**

Embedded Software Team Lead — Vancouver, BC
UBC Bionics Design Team — January 2022 - Present

- **Led** a team of **10 developers**, effectively coordinating and **managing project tasks**, and fostering collaboration

Undergraduate Teaching Assistant — Vancouver, BC
UBC Math Department & Computer Science Department - MATH 110, APSC 160 — August 2022 - Present

- Co-facilitated weekly workshops, and helped **150+ students** in Differential Calculus, **Embedded Programming** with Arduino

TECHNICAL SKILLS

- **Languages**: Python, Go, Java, JavaScript, HTML/CSS, SQL, C/C++, Rust
- **Technologies**: Git, Unix, Flask, PostgreSQL, Redis, MongoDB, AWS, GCP, dbt, ClickHouse, Dagster, Docker, Jenkins, Kubernetes

TECHNICAL PROJECTS

Map Reduce(Link)
Go, RPC — April 2024

- Developed a **distributed MapReduce** system, showcasing expertise in concurrency, **RPC**, fault tolerance, and file management

Distributed Key-Value Database(Link)
Java, gRPC, Protobuf, JUnit — March 2024

- Engineered a **concurrent** database handling **CRUD** requests with different agents for **storage**, **replication**, and **client handling**
- Orchestrated data replication using **gRPC** for efficient inter-server communication, ensuring seamless **horizontal scalability**

Study Buddy: Full-stack Web-based AI Assistant(Link)
React, Node Js, Flask, MongoDB, AWS(EC2, S3, Textract), LangChain, OpenAI, ChromaDB — April 2024

- Developed a **full-stack** AI assistant, using **React**, **Node JS** and **Flask**, integrating **AWS** and **GPT-3.5** for generating flashcards and Q&A
- Implemented **RAG-based architecture** with **ChromaDB**, accessible through **REST** API and websocket, deployed on **AWS EC2** for scalability