

Naman Uttamchandani

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EDUCATION

University of British Columbia

Bachelor of Science, Computer Science — Dean's List

Vancouver, BC

Expected May 2027

- **Relevant Coursework:** Distributed Systems, Operating Systems, Databases, Machine Learning, Algorithm Design & Analysis, Software Engineering

EXPERIENCE

Software Engineer

UBC Snowbots (Autonomous Rover Design Team)

Oct 2025 – Present

Vancouver, BC

- Redesigned the network connecting an autonomous ROS 2 rover, base station, and field infrastructure, increasing sustained throughput nearly **4x, from 22 Mbps to 87 Mbps**, and reducing average command latency from 40 ms to 10 ms
- Built a configurable Python test harness using iperf3, SSH automation, YAML, and CSV/JSON reporting to measure throughput, latency, jitter, and packet loss across field conditions and identify network bottlenecks

Software Development Engineer Intern (Return Offer)

Amazon

May 2025 – Aug 2025

Vancouver, BC

- Designed, built, and launched a distributed Java **traffic shaping service** exposed through an Amazon API Gateway REST API, enabling upstream services to regulate invoice ingestion and protect revenue-critical p95 and p99 processing-latency targets
- Implemented an AIMD-based adaptive throttling algorithm in AWS Lambda, driven by high-frequency CloudWatch metrics, to regulate admitted traffic against downstream saturation
- Integrated the throttler across distributed upstream services and Step Functions workflows, reducing messages routed to **SQS dead-letter queues by 70%** for the targeted overload condition; provisioned and deployed the service through CloudFormation and CI/CD with automated tests, alarms, and operational dashboards

Software Development Engineer Intern

Amazon

Jun 2024 – Aug 2024

Vancouver, BC

- Owned the end-to-end implementation of internal account invoicing across **17 Amazon ECS tasks running on AWS Fargate**, orchestrated through Step Functions state machines spanning invoice ingestion, validation, generation, and downstream billing
- Increased supported invoice volume by approximately **24%** by extending all pipeline modules to support internal accounts while preserving parallel, idempotent execution across the distributed workflow without increasing end-to-end processing latency
- Validated the implementation with production-representative invoice data, generalized the solution across all eligible internal accounts, and reduced messages routed to SQS dead-letter queues for internal-invoice failures by **12%**

Teaching Assistant, Software Construction

University of British Columbia

Jan 2023 – Apr 2023

Vancouver, BC

- Led weekly Java labs for 40+ students covering object-oriented design, test-driven development, and design patterns; debugged student code and supported lectures serving 150+ students

PROJECTS

Iron Chip | *Rust, SDL2, WebAssembly, WebGL* | github.com/namanu7/iron-chip

- Built a CHIP-8 virtual machine and interpreter in Rust, implementing the full instruction set with explicit control over memory, registers, input, timers, and instruction execution
- Compiled the emulator to WebAssembly and rendered its display through WebGL, enabling the same Rust implementation to run in the browser and in a cross-platform SDL2 desktop application

Impostor | *Node.js, Express, Socket.IO, SQLite, JWT* | github.com/namanu7/impostor

- Created a real-time web game inspired by the Turing test in which users analyze a live conversation between a human and an NLP model and identify which participant is the model
- Implemented bidirectional real-time messaging with Socket.IO, JWT-based authentication, SQLite persistence, and an MVC architecture with server-side rendering

TECHNICAL SKILLS

Languages: Java, Python, TypeScript, JavaScript, C++, C, Rust, Go, SQL

Frameworks & Libraries: React, Next.js, Node.js, Express, Socket.IO, pandas, NumPy, scikit-learn

Cloud & Tools: AWS (API Gateway, Lambda, ECS, Fargate, Step Functions, SQS, CloudWatch, CloudFormation), Docker, Linux/Unix, Git, ROS 2, MongoDB, SQLite