

# Mfon Udoh

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## EDUCATION

### Thompson Rivers University

*Bachelor of Computing Science (GPA: 3.5/4.0)*

Kamloops, BC

December 2026

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Database Systems, Software Architecture and Design, Computer Networks, Applied Artificial Intelligence, Discrete Mathematics.

## EXPERIENCE

### Software Developer Co-op

*Environment and Climate Change Canada*

May 2025 – December 2025

*Kelowna, BC*

- Developed a ticketing system using ServiceNow to streamline service requests from clients, serving **10,000+** users.
- Wrote scripts using JavaScript to enforce UI policies on forms, reducing manual input errors by **40%**.
- Built a KPI dashboard for an internal group, integrating **10** performance indicators to support decision making.
- Re-engineered **3,000+** lines of legacy Python code into ServiceNow flows, centralizing Service Desk operations.
- Fine tuned an NLP model for a virtual agent by utilizing quality data, achieving a **95%** intent resolution accuracy.

## PROJECTS

### Key-Value Database with Raft Consensus | *Go, gRPC, Raft*

[GitHub](#)

- Built a key-value store with an append-only log and in-memory hash index, sustaining **5k wps** and **50k rps**.
- Implemented Raft replication, maintaining strong consistency with **p99** write latency **<8 ms** on a 3-node cluster.
- Cut restart time on a **5GB** log from **12s** to **1.8s** and disk usage by **40–60%** via compaction using a hint-file.

### Mentra | *Electron.js, Flask, Python, PostgreSQL, Groq*

[GitHub](#)

- Built an AI-powered learning overlay at **CalHacks 12.0** that teaches software skills without switching screens.
- Developed an AI agent to screenshot, advance lessons and update the UI via WebSocket with **<100ms** latency.
- Implemented a lesson generation pipeline that turns natural language requests into 15-step tutorials in **<5s**.

### MapReduce | *Go, gRPC*

[GitHub](#)

- Built a MapReduce engine that processes **40GB** in **6 minutes** on a 5-node master-worker cluster.
- Implemented heartbeats and retries to reassign failed workers and preserve output under single-node failures.
- Benchmarked common jobs, achieving **3.5x** speedup from 1 → 4 workers and keeping **p95** task latency **<150 ms**.

### Eureka | *Java, Spring Boot, Next.js, Python, Docker, AWS*

[GitHub](#)

- Developed a web platform aggregating **10,000+** hackathon projects to help developers discover project ideas.
- Developed a REST API that uses PostgreSQL to store projects, supporting search, filtering, and pagination.
- Built an ETL pipeline scraping **100+** Devpost projects/day, enriching them via Gemini and storing in PostgreSQL.

## TECHNICAL SKILLS

**Languages:** Java, Python, C, C++, Go, JavaScript/TypeScript, HTML/CSS

**Databases:** PostgreSQL, MySQL, Oracle, SQLite, MongoDB

**Frameworks and tools:** Spring Boot, Next.js, React.js, FastAPI, Docker, AWS, Git

**Concepts:** Software Engineering, Backend, Distributed Systems, Cloud Platforms, Agile Methodologies