

# Mfon Udoh

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## EDUCATION

### Thompson Rivers University

Bachelor of Computing Science, Computer 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 user manual input errors.
- 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

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

[GitHub](#)

- Built an AI-powered learning overlay at **CalHacks 12.0** that provides interactive tutorials without context-switching.
- Developed an automation agent using Python to capture screenshots, advance lessons, and push UI updates via WebSocket with sub-second response times.
- Designed an LLM-based lesson generation pipeline that converts natural language requests into instructions.

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

[GitHub](#)

- Developed a web platform aggregating hackathon projects from Devpost to help developers discover inspiration.
- Built a REST API with Spring Boot supporting search and pagination across thousands of projects.
- Created an ETL pipeline that scrapes and enriches project data daily using Gemini API for categorization.

### 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 for learning distributed systems.
- Implemented Raft consensus algorithm (leader election, log replication) achieving strong consistency across a local 3-node Docker cluster with p99 write latency under 10ms in benchmarks.
- Optimized log compaction with hint-file indexing, reducing 5GB dataset restart time from 12s to under 2s and decreasing disk usage by 40–50% in testing.

### MapReduce | Go, gRPC

[GitHub](#)

- Architected a MapReduce framework supporting distributed word count and indexing across a 5-node cluster.
- Implemented fault tolerance through heartbeat monitoring and task reassignment, maintaining job completion despite worker failures in simulated tests.
- Benchmarked parallelization on sample datasets, observing 50% speedup when scaling from 1 to 4 workers with p95 task latency under 200ms.

## 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 Engineering, Distributed Systems, Cloud Platforms, Agile Methodologies