

# Mfon Udoh

(236) 597-8934 | [mfonezekel@gmail.com](mailto:mfonezekel@gmail.com) | [linkedin.com/in/mfonudoh18](https://linkedin.com/in/mfonudoh18) | [github.com/Mfon-19](https://github.com/Mfon-19)

## EDUCATION

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### 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

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### Software Developer Co-op

*Environment and Climate Change Canada*

May 2025 – December 2025

*Kelowna, BC*

- Engineered a ticketing system in ServiceNow to streamline service requests from clients, serving **10,000+** users.
- Delivered **12+** ServiceNow catalog items and workflows to production, improving service request intake.
- Re-engineered **3,000+** lines of legacy Python code into ServiceNow flows, centralizing Service Desk operations.
- Built a KPI dashboard integrating **10** performance indicators for an operations group to aid data-driven decisions.
- Enhanced an NLP model with curated data from service groups, achieving 95% intent resolution accuracy.

## PROJECTS

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

[Link](#)

- Built a distributed key-value store with an in-memory hash index and a gRPC API for Get/Put operations.
- Implemented Raft consensus, achieving strong consistency across a 3-node cluster with **p99** write latency **<10ms**.
- Optimized log compaction with hint-file indexing, cutting restart time from **12s** to **2s** and disk usage by **40-50%**.

### Market Data Service | *FastAPI, Python, Kafka, PostgreSQL, Redis, Docker*

[Link](#)

- Built a FastAPI microservice that serves latest stock prices and creates interval-based polling jobs via an API.
- Designed an event-driven Kafka pipeline where a worker computes MA5 in O(1) using in-memory rolling windows.
- Soak-tested the system at **5,000** events/sec, achieving **p95** read latency of **50ms** and **90%** Redis cache hit ratio.

### Repro | *Next.js, TypeScript, Neon Postgres, Gemini, Upstash QStash, Vercel Sandbox*

[Link](#)

- Developed a LeetCode-style platform to upload research papers and implement the algorithms in a browser IDE.
- Designed an async job pipeline with Postgres and QStash workers to handle PDF upload and code generation.
- Utilized Gemini to generate LeetCode-style code scaffolds and tests from PDFs with structured JSON output.

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

[Link](#)

- Built an AI-powered overlay at **CalHacks 12.0** that provides interactive tutorials on screen for learning software.
- Developed an AI agent to capture screenshots and push UI updates via WebSocket with sub-second latency.

## TECHNICAL SKILLS

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

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

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

**Concepts:** Object-Oriented Programming (OOP), Backend Engineering, Distributed Systems, Cloud Platforms, Agile Methodologies