Oliver Kwun-Morfitt

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TECHNICAL SKILLS

Languages: Python, Go, Java, Typescript, SQL, Javascript, HTML/CSS
Frameworks: React, Node.js, Next.js, Express.js, gRPC, FastAPI
Developer Tools: Git, Docker, AWS, PostgreSQL, MySQL, MongoDB, Redis, Kafka, Github, CI/CD
Libraries: Pandas, NumPy, Matplotlib, Poetry, PyTorch, TailwindCSS, pytest, SQLAlchemy, bcrypt

EXPERIENCE

Software Engineer – ML Infrastructure   September 2025 – Present
University of Toronto Machine Intelligence Student Team   *Toronto, ON*
- Developed **open-source Go CLI tools** for managing **GPU compute jobs** on **Tenstorrent** and **AMD** servers, enabling researchers to submit, queue, monitor, and debug workloads.
- Implemented **token-based authentication**, structured logging, and **robust error handling**, improving reliability in multi-user GPU environments.

Full-Stack Developer   May 2025 – Present
University of Toronto Climbing Club   *Toronto, ON*
- Implemented a clean, **component-driven UI** with **Next.js + Tailwind**, improving **maintainability** and UX consistency.
- Built reusable, **mobile-first** navigation components, improving **responsiveness** and layout consistency across all device sizes.
- Performed regular **PR reviews**, standardizing styling, enforcing **component patterns**, and maintaining a clean, stable codebase.

PROJECTS

LLM Structured Output Engine | *Python, Pydantic, JSON Schema, OpenAI API, Poetry*   November 2025
- Built a **provider-agnostic structured-output engine** for reliable **JSON** and **typed responses** from **LLMs**.
- Designed a clean **adapter architecture** and implemented an **OpenAIAdapter** for **multi-provider support**.
- Implemented s**chema-based validation** and **repair** using JSON Schema + Pydantic to **improve output accuracy**.
- Added Poetry packaging, **tests**, and reproducible environments for a smoother developer and **CI workflow**.

Real-time Ledger API | *Go, Gorilla/Mux, UUID, Docker, REST, PostgreSQL, Git*   November 2025
- Built a **production-grade** double-entry ledger service, enforcing **per-currency invariants**, validating postings, and preventing negative balances.
- Implemented **token authentication**, **structured logging**, and **health probes**, bringing the service to a deployable, ops-ready state.
- Benchmarked at **3.6k req/s (p95 = 14ms)** while preserving full **ACID** guarantees and strict posting invariants under load.

E-commerce REST API | *Go, MySQL, Docker, Redis, Prometheus, Git*   June 2025 – July 2025
- **Engineered** a **high-performance REST** API with **JWT** auth, **Redis** caching, **Dockerized** services, and clean modular routing.
- **Improved** throughput from **2.1k req/s to 4.4k req/s** by adding **Redis caching** and a concurrent, connection-reuse–optimized load balancer.
- Developed a custom **round-robin load balancer** with health checks, rate limiting, and automated failover, sustaining **99.6% availability** during stress tests.

CERTIFICATIONS

Stanford Machine Learning Specialization | *Python, TensorFlow, Numpy, Matplotlib, Scikit.learn*   July 2024
- Applied variety of AI and ML concepts: Decision Trees, Neural Networks, Logistic and Linear Regression, Model evaluation, and Feature engineering

EDUCATION

University of Toronto St. George   Toronto, ON
Honors Bachelor of Science, Computer Science & Statistics, Math Minor — **(GPA 3.77)** *(Dean's List Scholar)*   *May 2028*