Vivek Jude Manoj

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Education

University of Waterloo — Waterloo, Ontario
Bachelor of Computer Science, Artificial Intelligence Specialization — *Expected Graduation: December 2027*
- Coursework: Distributed Systems, Operating Systems, Networks, Computer Architecture, OOP (C++), ML

Technical Skills

Languages: C/C++, Python, Go, Java, TypeScript/JavaScript, Kotlin, SQL, Rust
Infrastructure & Cloud: AWS, Kubernetes, Docker, Terraform, Bazel, Linux, Jenkins, GitHub Actions
Backend & Observability: gRPC/Protobuf, REST, GraphQL, PostgreSQL, Redis, OpenTelemetry, Prometheus
Frontend & Mobile: React, Next.js, Android (Kotlin, MVVM), Supabase
AI/ML: LLM Agents (MCP), Gemini API, PyTorch, TensorFlow, BERT, scikit-learn

Experience

Shopify — Jan 2027 – Apr 2027
Software Engineer Intern (Incoming), Backend & Infrastructure — *Toronto, Ontario*

Arctic Wolf Networks — Jan 2026 – Apr 2026
Software Engineer Intern, Infrastructure & Developer Productivity — *Waterloo, Ontario*
- Shipped an **AWS Dedicated Host Allocator** in **Go** (**Python** prototype) that retries scarce EC2 capacity with **backoff** under per-user **SSO**; adopted by **3+ teams**, saving ∼**5 hrs**/allocation.
- Cut **ARM64** build time ∼**40%** by caching **Bazelisk** in **Docker** volumes on **GitHub Actions** runners.
- Provisioned **5+ macOS CI build nodes** on EC2 Dedicated Hosts (custom AMIs, **Jenkins**, **10+** jobs).
- Hardened CI **security**: removed hard-coded credentials from Jenkins libraries; added **Rust** cargo-audit.
- Led a **zero-downtime** Bitbucket-to-GitHub migration of **20+ CI pipelines** via mirror clone.

Rocket Mortgage — May 2025 – Sep 2025
Software Engineer Intern, Platform Systems — *Detroit, Michigan*
- Built an **MCP-based AI DevOps agent** in **Go**, using **goroutines** to query GitHub, Azure DevOps, and Slack APIs **concurrently** and surface PR metrics and sprint insights, cutting context-switching by **20 hrs/week**.
- Optimized cross-service data fetching with **Redis** caching and tuned **GraphQL** resolvers, reducing API latency by **35%** under production load for a platform serving **1.5M+ monthly users**.
- Shipped **React/TypeScript** features for Rocket Homes; added **OpenTelemetry** CI/CD metrics.

UW Computer Science Club — Sep 2024 – Dec 2024
Software Developer — *Waterloo, Ontario*
- Built the **Class Profile 2024** website in **Next.js** and **TypeScript**, reaching **2,500+ users**.

AssistNow Inc. — May 2024 – Sep 2024
Software Engineer Intern, Backend — *Bentonville, Arkansas*
- Built a **C++ gRPC** service with **Protocol Buffers**, cutting cross-service serialization overhead **35%**.
- Migrated a legacy **C++14** codebase to **C++17/20** with **RAII**/smart pointers, cutting leak reports **90%**.
- Built **Java microservices** on **AWS** (ECS, Lambda, SQS) in the team's migration off a legacy monolith.
- Helped containerize **12+ services** with **Docker** and deploy them on **Kubernetes (EKS)**, cutting environment provisioning from **2 hours to 10 minutes**.

Projects

WatchDog - Real-Time AI Phone Scam Detection | *Python, BERT, LLMs, AWS, Flask* — GitHub | Demo
- **Most Promising Hack** at StarterHacks 2024: flags scam callers mid-call at **93% precision**.
- Designed a **tiered detection pipeline** (phrase matching → **BERT** classifier → **LLM**) over an ordered **SQS** queue, escalating only ambiguous segments to the costlier models.
- Trained BERT on SageMaker (**40%** lower latency); event-driven Flask microservices at **2,000+ req/min**.

Canify - Gemini-Powered Shopping Extension | *Python, Flask, Redis, Gemini API, Rust* — GitHub | Demo
- **Top 5 Hack** at Hack Canada 2025: **Gemini**-powered cart analysis backend (Flask, **Redis**), **<250ms**.

Watan - C++ Strategy Game Engine | *C++14, OOP, Design Patterns*
- 4-player Catan-style game in **C++**: **MVC**, templated **Observer** pattern, polymorphic dice/input.

Wat2Eat - Social Restaurant Discovery App | *Kotlin, Android, Supabase, Google Places API* — Demo
- **Android** app where UW students swipe on nearby restaurants to match; layered **MVVM**, **unit tests**.