

Himank Dave

steadyfall.github.io

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in [himank-dave](#)

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🎓 Education

University of Waterloo

Bachelor of Mathematics, Computational Mathematics (Co-op)

Waterloo, Canada

Sep 2022 - May 2027

- > Coursework: Object-Oriented Programming, Data Structures and Algorithms, Computer Systems and Architecture, Linear Algebra, Nonlinear Optimization

🧰 Experience

Embedded Software Developer Intern

Jan 2025 - Aug 2025

Geotab

Oakville, Canada

- > Built scalable **gRPC microservice** in **Go** to retrieve build artifacts and repository files with **commit-aware caching**, reducing asset retrieval latency for SIL testing framework from **~20s** to **under 2s**.
- > Containerized **Windows-only embedded development environment** using Wine, automating firmware builds for **500k+ products** while ensuring legacy software compatibility.
- > Reverse-engineered legacy Ubuntu 16 production **Docker images** into **Dockerfiles**, upgraded to Ubuntu 22 & **optimized image layers** to reduce size by **30%** for reproducible firmware builds.
- > Scaled **GitLab Runner** workloads on a Google **Kubernetes** Engine (GKE) cluster by increasing concurrency by **50x** and enabling **autoscaling**, eliminating 1h+ CI queues and supporting thousands of parallel jobs.

Software Developer Intern

May 2024 - Aug 2024

Cactus Creatives

Remote

- > Developed an **ETL pipeline** using **Flask** and **Pandas** to aggregate 50k+ hierarchical records, while enabling interactive visualizations with **React** and **D3.js**.
- > Built a self-hosted uptime monitoring platform using **Node.js**, **Socket.IO**, **Redis**, and **React**; deployed it on VPS via **Docker** and **detected 15+ downtime incidents** in the first month.
- > Engineered domain-specific multilingual chatbot leveraging **OpenAI NLP API**, achieving **85%** accuracy on proprietary dataset; integrated into client workflows.
- > Implemented CI/CD workflows for 15+ repositories using **GitHub Actions**, cutting deployment times by **40%**.

Python Developer Intern

May 2023 - Aug 2023

Cactus Creatives

Ahmedabad, India

- > Developed realtime content management system in **Django** to display analytics for waste management company.
- > Migrated 50k+ records from **MySQL** to **PostgreSQL** via custom Python scripts, eliminating data integrity issues and reducing query times by **40%**.
- > Analyzed client product usage datasets using linear/logistic regression and outlier detection, leading to over **25%** client savings.

🧪 Projects

Deris 🔄 | *Golang*

- > Built minimal **key-value store** with network socket interface supporting CRUD operations & high throughput.
- > Achieved **50k+ operations/sec** and **<1ms latency** using Go concurrency primitives and buffered I/O.
- > Implemented **Append-Only File snapshots** with **SHA256 checksums** to ensure data integrity and enable reliable recovery on shutdown.

Trivivo 🔄 | *Django, MySQL, REST Framework*

- > Engineered a trivia platform with adaptive difficulty, countdown timers & lifeline logic using Django/MySQL.
- > Built secure **REST API** for question ingestion & retrieval with token-based authentication, input validation.
- > Developed **real-time admin dashboard** with game metrics, audit logs, & full CRUD capabilities for questions.

Chess | *C++, XQuartz*

- > Developed stateful chess engine in C++ with **object-oriented design** principles and **UML-driven** architecture.
- > Implemented **full ruleset** including check/checkmate, castling, pawn promotion & **dynamic move validation**.
- > Built move-tracking system to support undo functionality & session replay, enabling accurate gameplay analysis.

⚙️ Skills

Languages Python, Golang, TypeScript, JavaScript, C++, Bash

Frameworks Django, React, Next.js, Node.js, Socket.IO, TailwindCSS

Tools Docker, Kubernetes, GitLab CI, GitHub Actions, Google Cloud Platform (GCP)