

Grishma Dhakal

Computer Engineering Student | Pokhara, Nepal

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Summary

Computer Engineering student dedicated to building robust software systems and exploring hardware-software integration. Driven by a passion for solving complex technical challenges and developing efficient, scalable applications.

Education

IOE Pashchimanchal Campus, Tribhuvan University Bachelor in Computer Engineering	Pokhara, Kaski, Nepal
Capital Secondary School High School in Science; GPA: 3.68/4.0	Koteshwor, Kathmandu, Nepal 2021 – 2023
Kanti Secondary School Secondary Education (SEE); GPA: 3.85/4.0	Butwal, Rupandehi, Nepal 2021

Projects

rawhttp (Link)

- Built a lightweight HTTP parser and server in Rust following RFC-9112 specifications for protocol parsing
- Mastered HTTP/1.1 syntax and semantics while gaining deep understanding of TCP connection lifecycles
- Implemented thread-safe state management using Rust's ownership model and Arc primitives
- Explored robust error handling and type-driven development with Result/Option types

notgit (Link)

- Built a minimal reimplementation of Git in Go to understand version control systems under the hood
- Learned the internal structure of Git objects (blobs, trees, commits) and storage mechanisms
- Explored binary data serialization and low-level file system interactions in Go
- Mastered CLI application architecture and command-line parsing logic

g7-chat (Link)

- Built a fast, minimalist AI chat interface with thread management and branching capabilities
- Implemented AI integration allowing users to bring their own API keys with custom UI
- Used tRPC to ensure end-to-end type safety across the full stack
- Designed polished UI with Tailwind CSS and shadcn/ui for user and AI customization

tube-and-fuss (Link)

- Developed a backend system combining features of YouTube and Twitter using Express.js
- Built REST API using JWT middleware for stateless authentication with modular architecture
- Implemented MongoDB aggregation pipelines for efficient pagination and relational data fetching
- Mastered API error handling patterns and input validation pipelines

go-rssag (Link)

- Developed a lightweight RSS aggregator with full API and scraping support built in Go
- Mastered Go concurrency patterns using Goroutines and Channels for parallel data scraping
- Learned type-safe SQL interaction and code generation workflows with SQLC
- Explored RESTful API design principles and middleware implementation with containerization

Technical Skills

Languages: Rust, Go, TypeScript, JavaScript, SQL (PostgreSQL), C/C++

Frameworks: Next.js, React, Express, tRPC, Chi (Go), Cobra (Go)

Tools: Linux, Tmux, Vim/NeoVim, Git, Node.js, Docker, SQLC, Goose, Postman

Libraries/ORM: Drizzle ORM, Mongoose, Tailwind CSS, Shadcn/UI, Zod, Auth.js, Vercel AI SDK