KSHITIJ NARAYAN KULKARNI

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Education

Dayananda Sagar College of Engineering   **2022 − 2026**
Bachelor of Science in Computer Science   *Bengaluru, Karnataka*

Technical Skills

Languages: Golang, Rust, JavaScript, TypeScript
Frameworks: React, Nextjs, GraphQl, Redux, Zustand
Devops Tools: Docker, Kubernetes, Terraform, AWS, Jenkins, Ansible

Projects

Div-ine UI | *React, TypeScript, Tailwind CSS*   ⭘
- Architected a modern, component-driven UI library with a focus on **developer experience**, **accessibility**, and **customizability** using React, TypeScript, and Tailwind CSS.
- Built **reusable, theme-aware components** such as buttons, modals, and inputs with support for multiple variants, responsive design, and dark mode.
- Implemented a **flexible theming system** using CSS variables and a custom `ThemeProvider`, allowing seamless customization and brand adaptation.
- Developed a CLI tool (`divine-wand`) to scaffold new projects or integrate Div-ine UI into existing applications with minimal setup.
- Designed with **accessibility principles** in mind using ARIA roles, keyboard navigation, and WCAG-aligned semantics.

Golem - System Monitoring Platform | *Go, SQLite, JWT, REST API*   ⭘
- Engineered a **full-featured system monitoring platform** in **Go**, capturing real-time metrics for **CPU**, **memory**, **disk**, **network**, **uptime**, and running **processes**.
- Built modular **health check framework** with support for **HTTP**, **TCP**, **database**, and **API endpoint** checks, configurable via environment or API.
- Developed a real-time **web dashboard** using Go's static server for visualizing metrics and managing health checks interactively.
- Implemented secure **JWT-based authentication** with **role-based access control (RBAC)** for user and admin separation.
- Designed and integrated **SQLite-backed persistent storage** for metrics, health checks, and user data with fast query capabilities and no external dependencies.

ZenVault − Secure File Storage System | *Node.js, Express, TypeScript, PostgreSQL, Redis*   ⭘
- Implemented a robust **authentication and session system** using **JWT** and **refresh tokens**, with support for **role-based access control** (User, Moderator, Admin).
- Developed a full-featured **file management backend** including upload, download, version control, soft delete, metadata tagging, and preview support.
- Designed a **hierarchical folder system** with unlimited nesting, integrated **per-user storage quotas**, and support for bulk operations and folder statistics.
- Built a modular **REST API** with comprehensive endpoint coverage, advanced search with filters and metadata, and detailed access audit logging.
- Containerized the system using **Docker + Docker Compose**, enabling seamless local development and staging deployments with isolated environments.

Kommito − Lightweight Version Control System | *Go*   ⭘
- Built a simplified version control system inspired by Git to learn VCS internals, implementing **repository initialization**, **file staging**, **commit history**, and **branch management**.
- Designed a Git-like structure with a custom `.kommito/` directory containing **blobs**, **commit metadata**, **refs**, and a **staging index** in JSON format.
- Implemented **SHA-1 based content-addressed storage** for deduplicating files and tracking commit data with metadata including timestamp, author, and message.
- Built a modular CLI using the **Cobra** framework with support for 10+ subcommands including `init`, `add`, `commit`, `log`, `status`, and `branch`.
- Handled key edge cases like **branch deletion protections**, **merge validation**, and **checkout warnings** to maintain repository consistency and avoid accidental loss.

Achievements

- **LiFT Scholar 2025**: Shubhra Kali Linux Foundation LiFT Scholarship awarded among 500 global recipients
- **Runner-Up, Go for Gofr Hackathon**: Secured 2nd place in the Go for Gofr Hackathon