Dhruvin Purohit

hellodhruvin@gmail.com | linkedin.com/in/hellodhruvin | github.com/hellodhruvin

SUMMARY

Passionate programmer with 4 years of self-directed programming experience in back-end development, system design, and Linux. Proficient in Rust, C++, Elixir & OTP, Typescript, and Go. Interested in applying programming skills to create meaningful software solutions that make a difference. Looking for an entry-level position to use my skills and contribute to impactful projects.

TECHNICAL SKILLS

Programming Languages: Rust, C++, Elixir & OTP, TypeScript, Python, & Go

Frameworks: React, Svelte, NestJS, Phoenix LiveView, Actix-Web, Axum, Gin & Echo

Databases: PostgreSQL, SQLite, Redis, MySQL, MariaDB & MongoDB

Tools: Linux, Vim, Nix, Git, Docker

PROJECTS

Kantan CLI - Internal utility to manage docker containers on Param Shavak　　　　Jun 2024 – Present
College Internal Utility　　　　　　　　　　　　　　　　　　　　　　　*Go, SQLite, Linux, Nix, Docker*
- Developed a command-line interface (CLI) tool to manage Docker containers on the college supercomputer, Param Shavak.
- Implemented user management features, including user creation with password hashes and persistent data storage using Docker volumes.
- Developed the CLI using the Cobra library in Go, leveraging Docker's official Go client for container management.
- Created a custom Ubuntu image that deploys a JupyterHub instance configured to work with PAM, along with an SSH service for power users.
- Integrated NVIDIA drivers on Linux to support GPU-accelerated tasks.
- Used Nix to package the CLI, Docker, and relevant NVIDIA packages, ensuring reproducible builds and consistent environments.
- Configured the deployment behind a reverse proxy using Caddy.

OAuth 2.0 Identity Server　　　　　　　　　　　　　　　　　　　　　　　Feb 2025 – Mar 2025
College Internal Utility　　　　　　　　　　　　　*SvelteKit, PostgreSQL, Tailwind CSS, Nix, Docker*
- Developed an OAuth 2.0 Identity Server to centralize authentication, allowing users to access multiple applications without memorizing multiple passwords.
- Utilized SvelteKit for rapid development, PostgreSQL for the database, and Tailwind CSS for the UI.
- Integrated the authorization code flow from the OAuth 2.0 specification.
- Created a proof of concept app to demonstrate the functionality and integration with client applications.
- Provided documentation and support for developers.
- Used Nix for consistent development environments and Docker for reliable deployments.

Companion Application for Content Generation on LMS　　　　　　　　　　　Mar 2025 – Apr 2025
College Internal Utility　　　　　　　　　　　　　　　　　　　*Rust, SolidJS, CSS, Nix, Docker*
- Developed a companion application for the college's Learning Management System (LMS) that generates content using lecture videos.
- The app takes a video from the LMS file servers and uses a pipeline to transcribe, summarize, translate, and generate multiple-choice questions (MCQs).
- Utilized self-hosted machine learning models such as Deepseek (with Ollama) and Whisper.
- Implemented overlapping chunks for transcription to avoid context loss.
- Used FFmpeg to preprocess the videos without saving them to the file system, processing them entirely in memory.
- Implemented cron jobs with mutexes to support bulk processing of lecture videos via background tasks.
- Allowed faculty to inject their own prompts into the system prompt, providing full control over the output.

- Employed SHA-256 checksums on audio chunks to ensure that the same chunk of audio is never transcribed more than once, optimizing resource usage.

- Used Nix for consistent development environments and Docker for reliable deployments.

Learning Management System (LMS) Jan 2024 – Apr 2024
University Minor Project *React (NextJS), trpc, PostgreSQL, Docker*

- Led a two-member team in developing a Learning Management System (LMS) as part of university minor project.

- Designed and implemented features for course management, user registration, and content delivery.

- Presented the project at a tech exhibit, where the team secured 2nd rank among participating projects.

"Saarthi" Chatbot Development Aug 2023 – Dec 2023
Team University Project *Google Dialogflow, Fastify, HTML, CSS, JS*

- Collaborated within a 5-member team to develop and deploy the university's AI chatbot, "Saarthi".

- Developed a lightweight server using Google Dialogflow and Fastify, seamlessly integrating the interface into the university website.

- Honored by GSFC University's President, Sri. P. K. Taneja (Retd. IAS), for our contribution.

EXPERIENCE

Founding Engineer Intern Feb 2023 – Aug 2023
Zut.ai *Remote*

- Developed and implemented a robust database model with scalability, normalization, and indexing.

- Developed zod schemas for validating both frontend requests and backend responses.

- Utilized trpc in backend and frontend for end-to-end type safety, response caching, and a maintainable codebase.

- Utilized Gupshup API for building a QR code-based authentication system using WhatsApp.

- Used technologies like JOSE, JWT, and Redis to manage authentication sessions.

- Integrated Razorpay payment gateway into the product for secure and seamless transactions.

- Developed and implemented cron jobs to automate commission distribution to influencers.

Param Shavak System Administrator Jan 2024 – Present
GSFC University *Vadodara, Gujarat*

- Install and configure Ubuntu operating systems and NVIDIA drivers to support GPU-accelerated tasks for various computational workloads.

- Set up and maintain a monitoring dashboard using Grafana and Prometheus to track system performance and resource utilization, enabling proactive management of the supercomputer.

- Implement automated backup scripts to ensure data integrity and availability, minimizing the risk of data loss.

- Collaborate with faculty and students to understand their computational needs and provide tailored solutions using Docker and other technologies.

- Develop and maintain documentation for system configurations, user guides, and operational procedures.

- Troubleshoot and resolve hardware and software issues, ensuring minimal downtime and efficient operation of the supercomputer.

EDUCATION

GSFC University Vadodara, Gujarat
Bachelor of Technology in Computer Science and Engineering (AI, Machine Learning & Data Science) Aug 2021 – Present