

Sarthak Upadhyay

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CAREER OBJECTIVE

Systems-oriented developer skilled in Python, Rust, and modern web technologies, with a focus on automation, CLI tooling, and open-source contribution. Actively seeking innovative projects and internship opportunities.

EDUCATION

Dayananda Sagar Academy of Technology and Management

Bachelor of Engineering in CSE, AI Specialization

Bangalore, India

Sep. 2023 – Current

Fatima Sr. Sec. School

Higher and Senior Secondary Education

Gonda, India

2018 – 2022

PROJECTS

kyro

Jun 2026 – Present

Stack Used: *Rust, MkDocs, Pygments*

- Designed and implemented a complete programming language in Rust, building a multi-stage pipeline with lexical scanning, parsing, a static Resolver pass for compile-time scope validation, and tree-walk interpretation.
- Built a foreign function interface (FFI) module enabling dynamic loading of compiled C shared libraries at runtime, with typed function binding mapping C signatures to callable kyro functions.
- Built an isolated library system supporting both low-level libraries implemented natively in Rust and higher-level libraries authored as kyro scripts, loaded interchangeably through the module system.

DeepSeq

2025

Stack Used: *Python, Streamlit, ESMFold, Py3Dmol, scikit-learn*

- Developed an AI-powered protein analysis tool offering 3D structure prediction, sequence embeddings, residue property analysis, stability assessment, and function prediction.
- Integrated ESMFold API for high-accuracy structure prediction and ESM2 transformer models to generate high-dimensional protein sequence embeddings with PCA/t-SNE visualization.
- Built an interactive Streamlit interface with Py3Dmol for real-time 3D molecular visualization supporting multiple rendering styles, color schemes, and downloadable results.

EXPERIENCE

Green Intern

Sep. 2025 – Nov. 2025

1 Million 1 Billion (1M1B) Foundation

- 1M1B is a global non-profit empowering youth to build sustainable solutions; contributed as a Green Intern developing a VPS resource usage monitoring tool for cloud environments under their tech-for-good initiative.
- Built cross-platform system telemetry in Rust using Tokio for async data streaming, WinAPI and Linux /proc for native resource access, and JSON for standardized output, validated in production on a live Hostinger VPS instance hosting a website.

Open Source Mentor

Summer 2025

GirlScript Summer of Code (GSSoC) 2025

- Mentored ~15 contributors in an open-source program, guiding new contributors through Git workflows and their first contributions while reviewing pull requests and providing technical feedback.
- Coordinated with team leads to track contributor progress and helped resolve blockers during code reviews throughout the summer cohort.

TECHNICAL SKILLS

Languages: Python, Rust, TypeScript, JavaScript, C, Java, HTML, CSS, SQL

Frameworks: Svelte (Kit), FastAPI, Rocket.rs, Flask, Express.js, React, Next.js, Django, React Native

Databases: PostgreSQL, MySQL, MongoDB, SQLite3, Redis, Supabase

Developer Tools: Git, GitHub, VSCode, Zed, Neovim, Bash/Zsh/Fish shells, Vercel, Render

Testing & Tooling: Pyright, Postman, tox/nox, Jest

Libraries: pandas, NumPy, Matplotlib, Tensorflow, Keras, asyncio

CERTIFICATIONS

The Complete Full-Stack Web Development Bootcamp (by Angela Yu) — Udemy	<i>Jul 2025</i>
Everything You'll Need to Know About Git (by The Primeagen) — Frontend Masters	<i>Mar 2025</i>
Prompt Engineering Safety & AI Engineering Safety Expert Certification & Assessment — MTF Institute	<i>Jul 2025</i>
Hands on GitHub Action Event (by Microsoft Student Ambassadors program) — GitHub Education	<i>Oct 2023</i>