Lalit Maurya

+91-6364713301 | Bengaluru, India | lm742@snu.edu.in | linkedin.com/in/lalitm1004 | github.com/lalitm1004 | lm04.me

Profile

Computer Science undergraduate with experience in full-stack development and AI/ML, skilled in Rust, Python, and modern web technologies. Passionate about building scalable, real-world solutions.

Education

Shiv Nadar Institution of Eminence — Delhi NCR, India
Bachelor of Technology in Computer Science and Engineering (CGPA 8.3) — *Aug. 2023 – Expected May 2027*

Experience

Teaching Assistant - Computer Organisation and Architecture — Aug 2025 – Nov 2025
On Campus Job — *Shiv Nadar Institution of Eminence*

Team Lead, AI/ML Team — March 2025 – Present
Google Developer Group — *Shiv Nadar Institution of Eminence*

- Created the official AI/ML team under GDG-SNIoE, initiating and managing bi-weekly meetings to ensure project alignment and timely progress
- Directing a 13-member team of varying skill levels and diverse interests in real-world AI/ML projects.
- Spearheading the development of a campus-wide technical newsletter to showcase AI/ML projects and foster a culture of innovation and knowledge-sharing.

Hackathon Director, @ping — April 2024 – Feb 2025
Google Developer Group — *Shiv Nadar Institution of Eminence*

- Created and led @ping, a campus-wide mini-hackathon series fostering an active development culture among fellow students, amassing 100+ participants and learners over a year
- Managed a 12-member team to develop a full-stack submissions platform using Supabase, and SvelteKit
- Designed and implemented a streamlined process for project submissions, improving user experience

Projects

oxigrad-autograd | *Rust, Python, PyO3, Maturin* — Jul 2025

- Developed a scalar-valued auto-differentiation engine in Rust for memory-safety and performance
- Implemented Python bindings using PyO3 and Maturin for seamless integration across languages
- Implemented forward and backward passes, supporting automatic differentiation and gradient computation through dynamic computation graphs
- Integrated common activation functions (Sigmoid, ReLU, Softmax) and loss functions (MSE, Cross Entropy)
- Published to PyPI with support for Python 3.9+, enabling simple installation via `pip` or `uv`

Skin Detection Without Color Information | *OpenCV, Scikit-learn, NumPy* — Feb 2025 - May 2025

- Implemented grayscale skin detection using facial priors and texture features from a WACV 2017 paper
- Processed and curated a HELEN-derived dataset with ground-truth skin segmentation masks
- Extracted LBP, grayscale stats, lacunarity, and landmark-based features
- Developed a region growing algorithm seeded by face-based intensity priors

CogitoTutor | *FastAPI, OpenAI, PostgreSQL, SvelteKit* — Jan 2025

- Led a 3-member team to build an AI-powered tutor, winning 1st place at an ACM-W hackathon
- Developed a responsive, interactive UI to deliver dynamic quizzes and flashcards based on user performance
- Integrated OpenAI API with the frontend to enable real-time generation and personalized learning feedback
- Built a full-stack application with FastAPI and PostgreSQL, ensuring seamless data flow between backend services and frontend interfaces

UniSync | *Python, Selenium, Google Calendar API* — January 2026

- Developed a python-based tool to streamline university timetable management by scraping data from the ERP system and syncing it with Google Calendar
- Leveraged Python, Selenium, and Google Calendar API to automate data extraction and integration, ensuring a seamless user experience.

Technical Skills

Languages: Rust, JavaScript, TypeScript, Python, C, C++, SQL, HTML, CSS
Frameworks & Libraries: React, Next.js, SvelteKit, Flask, FastAPI, PyTorch, Poem-OpenAPI
Tools & Platforms: Git, GitHub, Supabase, Docker, Google Cloud Platform (GCP), Linux, Helix, Neovim, uv
Databases & ORMS: MySQL, PostgreSQL, MongoDB, Prisma, SQLx
Technologies & Protocols: Node.js, REST APIs, gRPC, WebSockets, Selenium