Rahul Kumar

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SUMMARY

- AI & Full-Stack Developer with hands-on experience in ML systems (PyTorch), backend APIs (FastAPI), and modern web apps (React/Next.js).
- Skilled in Docker, Linux systems, and cloud deployment with a strong focus on scalability and production-ready development.
- Passionate about MLOps, automation, and building end-to-end AI products that deliver real-world impact.

TECHNICAL SKILLS

- **Programming & Core Tech**: Python, JavaScript, HTML/CSS, Bash, Linux, Git, REST APIs
- **AI/ML & Data Engineering**: PyTorch, Scikit-learn, NumPy, Pandas, OpenCV, Grad-CAM, Computer Vision
- **Full-Stack & DevOps**: React, Next.js, Tailwind CSS, FastAPI, Node.js, PostgreSQL, Redis, Docker, Docker Compose, GitHub Actions (CI/CD), Vercel, Modal

PROJECTS

- **Skin Lesion Classifier with Explainable AI**   Oct 2024 – Present
  Deep Learning & Full-Stack Deployment   *Technologies: Python, PyTorch, FastAPI, React/Next.js, Docker, Modal*
  - Achieved **0.97+ ROC-AUC** using a fine-tuned ResNet50 CNN model.
  - Integrated Grad-CAM for clinical explainability and visual heatmaps.
  - Deployed GPU-powered backend on Modal with FastAPI REST endpoints.
  - Generated automated PDF diagnostic reports including model predictions.
  - Built a responsive Next.js UI for real-time inference and image processing.
  - **Live:** skin-disease-classifier-lemon.vercel.app

- **Secure URL Shortener Service**   Jul 2024 – Oct 2024
  Microservices + DevOps Project   *Technologies: Node.js, Redis, Docker Compose, Traefik, PostgreSQL*
  - Implemented scalable URL shortening backend with analytics tracking.
  - Improved response time by caching frequently accessed links using Redis.
  - Configured Traefik reverse proxy enabling SSL and secure routing.
  - Containerized services for modular deployment using Docker Compose.
  - Stored long-term link metadata in PostgreSQL with click stats support.
  - **Live:** shortify-omega-mocha.vercel.app

EXPERIENCE

- **Internal Inventory + Sales Management System**   Oct 2023 – Jan 2024
  Full-Stack Developer (Client Project)
  - Built a private, role-based inventory & sales platform deployed on the client's internal network, eliminating reliance on public SaaS tools.
  - Boosted order efficiency by 35% through automated stock tracking, low-stock alerts, and streamlined billing workflows.
  - Engineered a secure Python API + React solution with PostgreSQL and JWT auth, ensuring 100% internal data control.
  - Achieved 50% faster product lookup using optimized queries and caching for scalable inventory growth.

EDUCATION

- **Amity University Jharkhand**   Ranchi, JH
  Master of Computer Applications   *Sept 2024 – Sept 2026*

- **Gossner College Ranchi**   Ranchi, JH
  Bachelor of Information Technology   *Oct 2020 – May 2023*