

# Rahul Kumar

+91-7808447703 | rahulkumar23.me@outlook.com | linkedin.com/in/rahulkumar | github.com/rahulkumar

## SUMMARY

Full-Stack AI Engineer skilled in ML (PyTorch), backend APIs (FastAPI), and frontend apps (React/Next.js) with experience in Docker, Linux, and cloud deployment. Passionate about MLOps, scalable AI systems, and building end-to-end impactful solutions.

## TECHNICAL SKILLS

- Programming:** Python, JavaScript, HTML/CSS
- Frameworks:** PyTorch, FastAPI, React, Next.js
- Tools:** Docker, Git, Linux, Scikit-learn, NumPy, Pandas, OpenCV

## PROJECTS

- |  |   |
|--|---|
| <b>• Skin Disease Classifier with Explainable AI</b><br><i>Deep Learning &amp; Full-Stack Deployment</i>   | Oct 2024 – Present  |
|  | <i>Python, PyTorch, FastAPI, React/Next.js, Docker, Modal</i> |
| <ul style="list-style-type: none"><li>Achieved <b>0.97+ ROC-AUC</b> using a fine-tuned ResNet50 CNN model.</li><li>Integrated Grad-CAM for clinical explainability and visual heatmaps.</li><li>Deployed GPU-powered backend on Modal with FastAPI REST endpoints.</li><li>Implemented auto-generated PDF diagnostic reports with model predictions.</li><li>Built a responsive Next.js UI for real-time inference and image processing.</li><li><b>Live:</b> skin-disease-classifier-lemon.vercel.app</li></ul> |   |
| <b>• Secure URL Shortener Service</b><br><i>Microservices + DevOps Project</i>   | Jul 2024 – Oct 2024   |
|  | <i>Node.js, Redis, Docker Compose, Traefik, PostgreSQL</i>    |
| <ul style="list-style-type: none"><li>Implemented scalable URL shortening backend with analytics tracking.</li><li>Optimized performance using Redis caching for frequently accessed links.</li><li>Configured Traefik reverse proxy enabling SSL and secure routing.</li><li>Containerized services for modular deployment using Docker Compose.</li><li>Stored long-term link metadata in PostgreSQL with click stats support.</li><li><b>Live:</b> shortify-omega-mocha.vercel.app</li></ul>                  |   |

## EDUCATION

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|---|-------------------------------------|
| <b>• Amity University Jharkhand</b><br><i>Master of Computer Applications</i> | Ranchi, JH<br>Sept 2024 – Sept 2026 |
| <b>• Gossner College Ranchi</b><br><i>Bachelor of Information Technology</i>  | Ranchi, JH<br>Oct 2020 – May 2023   |

## CERTIFICATIONS

- 100 Days of Code - Python
- The Complete JavaScript Course