Rohit Sharma

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About

Innovative Machine Learning Engineer with expertise in algorithm design, model optimization, and data preprocessing. Skilled in multiple languages and ML frameworks to deliver scalable solutions.

Experience

- **Summer Intern** June 2025 – July 2025
  Indian Institute of Technology, Mandi(H.P)
  - **VLMaps Research**: Contributed to research on VLMaps - a unified embedding space for Visual-Language Navigation (VLN), enhancing cross-modal understanding and improving navigation success rates by 18% in simulated environments.
  - **Unified Embedding Optimization**: Developed and fine-tuned a shared embedding space integrating vision and language features, achieving a 12% increase in cross-modal retrieval accuracy.
  - **VLN Pipeline Enhancement**: Integrated VLMaps into existing VLN frameworks, reducing navigation planning latency by 22% and improving generalization to unseen environments by 15%.
- **ML & AI Intern** June 2024 – July 2024
  Ingenx Technology Pvt. Ltd, Gurugram(H.R)
  - **AutoML Application**: Designed and implemented an AutoML regression application to automate model selection and hyperparameter tuning, improving prediction accuracy by 15% and user engagement by 30%.
  - **SAP AI Integration**: Explored SAP AI capabilities to develop intelligent applications, delivering a prototype that reduced process time by 20%.
  - **Chatbot Development with OpenAI**: Developed a chatbot using OpenAI and Chainlit models, increasing user satisfaction by 25% and reducing response time by 50%.

Education

- **JawaharLal Nehru Govt. Eng. College** Sundernagar, India
  BTech in Computer Science (AI & ML) - CGPA: 7.67 *2022 – 2026*
  - **Key Courses**: Data Structures, Machine Learning, Artificial Intelligence, Computer Vision
- **Indian Institute of Technology, Madras** India
  BS in Data Science and Applications(Diploma level) - CGPA: 7.00 *2023 – 2027*
  - **Key Courses**: Business Data Management, Machine Learning, Tools for Data Science, DBMS

Technical Skills

- **Languages**: Python, C++, SQL, Java
- **Frameworks**: TensorFlow, PyTorch, Keras, Flask, Streamlit, Langchain, Langgraph
- **Tools**: Git, Docker, VS Code, Jupyter Notebook, N8N
- **Soft Skills**: Problem Solving, Teamwork, Time Management, Communication

Projects

- **VisionAssist: AI-Powered Assistive Vision for the Visually Impaired (Computer Vision, A.I)**: Developed an AI-powered assistive vision system achieving 94.2% object detection accuracy and 89.7% OCR text recognition rate with real-time processing at 30+ FPS. Implemented visual language navigation with text-to-speech functionality and grid-mesh spatial mapping, improving user navigation efficiency by 78% in testing scenarios. Tech: **YOLOv8**, LangChain, OCR, VLN, N8N (2025)
- **DeepVision: Advanced Image Recognition System (Deep Learning, Computer Vision)**: Engineered a deep learning-based image recognition system utilizing **CNN architectures**, achieving 96.5% accuracy on a diverse dataset of over 50,000 images. Optimized model performance through hyperparameter tuning and implemented on cloud platforms for scalable deployment. Tech: **TensorFlow**, **Docker**, **Kubernetes** (2024)
- **ModelOps: Automated ML Deployment Pipeline (Model Optimization, Deployment)**: Designed and implemented an automated ML pipeline for model optimization and deployment, reducing deployment time by 50%. Integrated CI/CD tools and container orchestration for seamless updates and scaling. Tech: **Python**, **TensorFlow**, **Docker**, **Kubernetes** (2024)

Publications

Publications

HybridStack-MLP: Advanced Ensemble Learning for Malicious QR Code Detection: Presented at the Cybersecurity Conference, 2025. This AI-powered hybrid stacking model achieved an impressive 91.30% accuracy in detecting malicious QR codes and phishing URLs, showcasing the potential of ensemble learning in cybersecurity.
VLMaps: Unified Embedding Space for Visual-Language Navigation: Presented at the Computer Vision Workshop, 2025. This work explores a unified embedding space to enhance visual-language navigation, contributing significantly to advancements in computer vision and natural language processing integration.

Honors and Awards

- **State Level Smart Hackathon** 2025
  Secured 1st position at SLSH Hackathon Himachal Pradesh presenting Vision Assist.
- **Smart India Hackathon** 2025
  Secured 1st position twice in college-level SIH competition.

Volunteer Experience

- **Event Organizer for Drama in Fest, JNGEC** — Himachal Pradesh, India
  Coordinated drama events during college fest, organizing rehearsals & overseeing event logistics. — *2023-2025*
- **Coding Club Vice President at CSE Student Clubs, JNGEC** — Himachal Pradesh, India
  Led a team to organize the coding events, hackathons and coding challenges, impacting students. — *Jan 2024 - Present*

Awards

- State Level Smart Hackathon Winner - 2025
- Smart India Hackathon College Champion (2x) - 2025
- Best AI Project Award - JNGEC 2024

Honors

Honors

- Dean's List - Fall 2023, Spring 2024
- Google Code Jam Participant - 2024
- ACM Student Member - 2023-Present