JASPREET SINGH

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Technical Skills

ML / AI: Classical ML, Deep Learning, NLP, Computer Vision, RAG Systems
Libraries: NumPy, Pandas, Scikit-Learn, PyTorch, TensorFlow, OpenCV, HuggingFace, LangChain
Data & Infra: Qdrant, RAGAS, Docker, REST APIs, FastAPI
Languages: Python, C++, C, SQL, HTML/CSS
Visualization & Utility: Matplotlib, Seaborn, BeautifulSoup, Groq, Ollama
Tools: Git, GitHub, VS Code, Streamlit, Postman

Projects

EduSahayak: Multilingual RAG-Chatbot | *LangChain, Qdrant, HuggingFace, FastAPI, RAGAS*　　　**Jul 2025**
- Built a multilingual RAG chatbot over 2000+ PDFs, enabling grounded QA across Hindi and English content.
- Designed evaluation pipelines using RAGAS, achieving 0.95+ context recall and 0.9+ faithfulness.
- Deployed scalable FastAPI backend with 4+ endpoints, hosted on HF Spaces for public access.

DeFi Compound v2 Wallet Analysis | *EtherscanAPI, Sci-Py, SciKit-Learn, Pandas*　　　**Jul 2025**
- Processed 100k+ on-chain transactions from 2k+ wallets to model DeFi credit and risk profiles.
- Engineered 20+ wallet-level features for accurate predictions and visualisation.

Open Source

Geek Room Certificate Sender | *Python, Flask, REST APIs, OpenCV, CI/CD*　　　**Oct 2024 – Jan 2025**
- Built a production-ready REST API to automate certificate generation using a modular service-based design.
- Redesigned the image processing pipeline to eliminate Google API dependencies, enabling fully offline operation.
- Improved reliability and CI/CD readiness by adding test coverage and environment-based configuration.

Other Contributions | *Multiple Programs*　　　**Oct 2024 – Present**
- Selected for open-source programs including GSSOC '24 and Hacktoberfest '24–'25.

Research & Publications

RAG-Enhanced Comic Panel Colorization Using GANs | ***Peer-reviewed presentation at NCI-TIDE***　　**Nov 2025**
- Developed RAG-guided GAN reducing L1 loss from 0.42 to 0.37 for consistent comic panel coloring.

Extreme Lossy SVG Compression | ***Peer-reviewed presentation at NCI-TIDE***　　**Nov 2025**
- Achieved 99% size reduction in SVGs using an extreme lossy compression pipeline for bandwidth-critical applications.

ScoreMatrix: Automated Grading Framework | ***Peer-reviewed presentation at NCI-TIDE***　　**Nov 2025**
- Designed parameter-guided system with 0.54 correlation to human evaluators for answer sheets.

Achievements & Competitions

Kaggle Drawing With LLMs | ***Top 14%*** *(180/1300+ teams)*　　　**Feb 2025 – May 2025**
- Produced a Text-to-SVG generation model as a Kaggle package, ranking among 1,300+ teams.

Hackathons | *5th @HackWie, top 10 @HackQuanta, top 15 @HackWithMait,*　　　**3+ times**
- Advanced to final rounds in 3+ hackathons, showcasing technical depth and converting ideas into working prototypes.

Leadership & Experience

GEEK ROOM SOCIETY | *HEAD OF AI/ML*　　　**Oct 2024 – Present**
- Mentored and Spearheaded peers and juniors (30+) in 5+ initiatives applying AI/ML in real-world scenarios.
- Organized and mentored in hackathons like CodeKshetra 2.0, BuildUp Ideathon, etc. for GR Community.

GOOGLE DEVELOPER GROUP ON CAMPUS | *AI DEPARTMENT MENTOR*　　　**Nov 2024 – Present**
- Mentoring AI-focused student projects and conducted 5+ sessions on applied ML.

Education

Maharaja Surajmal Institute of Technology　　　**Aug 2024 – Jun 2028 (expected)**
Bachelor of Technology in Information Technology　　　*Cum. GPA: 9.52/10.0 (3rd rank overall)*

Certifications

Machine Learning Specialization & Deep Learning Specialization: by Andrew Ng, deeplearning.AI