

DEEPALI SINGH

📞 +1 (413) 315-0295 📩 deepalisingh2k@gmail.com 💬 deepalisingh11 💬 deepalisingh11

EDUCATION

University of Massachusetts Amherst <i>Masters of Science in Computer Science, GPA: 4.0</i>	Aug 2025 – Jul 2027
Indian Institute of Technology Mandi <i>B.Tech. in Computer Science and Engineering (Minor in Management), CGPA: 8.88/10</i>	Jul 2019 – Jun 2023

- Relevant Coursework:** Advanced NLP, Advanced Machine Learning, BioNLP Independent Study
- Semester Exchange:** Technical University of Munich
- Teaching Assistant:** DSA, Data Science, Large Applications Practicum, Paradigms of Programming, Entrepreneurship
- Relevant Coursework:** Advanced Deep Learning, Machine Learning, Data Science, DSA, Database, OS, Networking

PATENTS

Aniruddha Bala, Siddharth Roheda, Rohan Jaiswal, Raghu Vamsi, Deepali Singh, Swarnim Shukla. (2024). **Method for Automatic High Quality Data Generation for Image Editing Application** (India Application No. 202441044916). U.S. patent filing in progress.

EXPERIENCE

Google <i>Software Engineer II, Geo NBU Local Team</i>	Oct 2024 – Jul 2025
	<i>Bangalore, India</i>
<ul style="list-style-type: none">Deployed advanced ML solutions to enhance Local Data coverage quality in Next Billion Users (NBU) countries by 25%.Developed an end-to-end pipeline for Exotel to Speakeasy migration to enable 15% faster feedback loop by phone operators.Created a model to assign Multi-Cuisine attribute of over 50,000 restaurants globally to improve discoverability.Built location intelligence features for storefront detection, phone number retrieval, and POI de-duplication on Maps.	
Samsung R&D Institute <i>Advanced Developer, Visual GenAI Team</i>	Aug 2023 – Oct 2024
	<i>Bangalore, India</i>
<ul style="list-style-type: none">Developed and optimized diffusion-based generative AI models for Instruction-based Add/Remove and Img2Vid internal research projects.Led end-to-end commercialization of Mask Extension PoC for object reposition in Samsung S25 phones.Collaborated with Google to develop and commercialize GenAI Photo Editor features instruction-based inpainting, sketch-to-image generation, and generative selfie for S24 release.	
Samsung R&D Institute <i>Software Developer Intern, Samsung Ads Team</i>	Jun 2022 – Aug 2022
	<i>Bangalore, India</i>
<ul style="list-style-type: none">Migrated batch data processing system to Spark streaming application utilizing a distributed systems pipeline.Handled challenges in de-duplication and anonymisation of Ad tracking data in a stream process.	

KEY PROJECTS

Multimodal Patient Education with Videos PyTorch	Aug 2025 – Present
<ul style="list-style-type: none">Designing a novel benchmark for patient-centric, multi-turn QA grounded in medical videos to address gaps in single-turn QA datasets.Developed a patient-doctor simulation pipeline to generate dialogues for diverse profiles, health literacy, and motivations.	
Enhancing Legal LLMs through Metadata-Enriched Hybrid RAG Pipelines PyTorch, LangChain	Oct 2025 – Present
<ul style="list-style-type: none">Proposed a custom RAG pipeline for legal text by conducting metadata ablation studies to reduce document-level retrieval errors for small LMs.Improved decoder-level hallucinations by utilising negative sampling to align the model with DPO.	
Video Colorisation using Deep Learning Tensorflow, Keras	Jul 2022 – May 2023
<ul style="list-style-type: none">Conducted Bachelor's Thesis on a Transformer-based approach for consistently adding color to monochrome videos.Designed a custom model architecture, inspired by ViViT (CVPR), layering spatial and temporal components for video understanding.	

SKILLS

Efficient ML, Large Language Models, Computer Vision, Generative AI, Research
Programming Languages: Python, C++, Scala, Java, JavaScript, SQL
Frameworks/Technologies: PyTorch, Tensorflow, JAX, Scikit, Pandas, Numpy, MySQL, Keras, NodeJS, Firebase

ACCOMPLISHMENTS

- Bronze Medalist**, Inter-IIT Tech Meet 2023, High Prep Deep Learning Problem Statement (Domain QA task)
- Academic Excellence Award in CS**, IIT Mandi, AY 2020-21.
- First Runner-Up**, ACM-W Algorithm Contest 2021.
- Google Developer Groups (GDG) Lead**: Conducted hackathons, bootcamps, and study jams for 500+ IIT Mandi students.
- The Girl Code**: Managed a thriving online community of 2000+ women programmers across India, Singapore, and USA.