Hridaya Sharma

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Education

Guru Gobind Singh Indraprastha University *Expected: 2026*
Bachelor of Technology in Artificial Intelligence and Machine Learning Delhi, India
- GPA: 8.89/10

Experience

Machine Learning Research Intern **June 2025 - Present**
Delhi Technological University *Delhi, India*

- Conducting research on domain adaptation for optical flow in adverse weather conditions, focusing on foggy and hazy domains to improve model robustness and generalization.
- Designing a guided optical flow framework with an enhancement module to restore degraded frames and enable more accurate motion estimation in challenging visibility scenarios.
- Leveraging multi-frame optical flow estimation techniques to enhance temporal consistency and reliability of predictions across video sequences.

AI Engineer Intern **July 2025 - August 2025**
Prodigal AI *Delhi, India*

- Implemented a hybrid keyword–semantic retrieval system using FAISS vector search, Google Embeddings, and LangChain orchestration, increasing relevance of startup–investor matches beyond exact keyword overlap.
- Designed and deployed a backend pipeline with FastAPI and MongoDB that integrated semantic similarity scoring (FAISS + embeddings) with rule-based profitability metrics, generating ranked startup recommendations with interpretable scoring logic
- Optimized retrieval performance on CPU-only infrastructure by deploying FAISS-CPU with lightweight embeddings, reducing search latency and enabling smooth, real-time query execution on resource-constrained servers.

Machine Learning Research Intern **Summer 2024**
Guru Gobind Singh Indraprastha University *Delhi, India*

- Designed and trained a computer vision model using a proprietary dataset from an MIT research paper to predict candidate personality traits, achieving 89% accuracy; manually processed facial features using dlib to extract key landmarks for input to a CNN, enhancing recruiter assessment efficiency.
- Tuned and optimized a CNN-based speech emotion recognition model on Kaggle audio datasets, achieving 90% accuracy through architecture pruning and hyperparameter optimization for low-latency emotion inference.
- Built a modular ML pipeline integrating Gradio frontend and Dockerized backend, reducing model integration time and enabling seamless deployment of CV and audio-based candidate analysis tools.

Software Engineer Intern **July 2024 – August 2024**
Agnisys Technology Inc. *Noida, India*

- Prototyped a high-performance data visualization dashboard using React, Node.js, and react-virtuoso to handle multi-megabyte JSON datasets; focused on low-memory rendering and smooth UX for sensor data exploration.
- Engineered a data pipeline leveraging stream-json to process and stream deeply nested sensor data, enabling real-time visualization and improving system responsiveness.
- Integrated MongoDB GridFS as a backend solution for handling oversized JSON files (¿16MB) in the system, validating feasibility of scalable storage and retrieval workflows.

Projects

English to Spanish Transformer | *Pytorch, Streamlit, Python*

- Built a custom Transformer-based NMT model from scratch (encoder-decoder architecture) to translate English to Spanish, based on "Attention Is All You Need", using PyTorch and trained on a bilingual corpus.

Technical Skills

Languages: Python , Typescript , Golang , C++
Technologies/Frameworks: PyTorch, TensorFlow , React, Node.js, MongoDB, Langchain, NextJS
Tools & Platforms: Docker, Postman, Git, MySQL, Nginx, Redis ,AWS, Kubernetes
Development Practices: Test-Driven Development (TDD), Continuous Integration/Continuous Deployment (CI/CD), RESTful API Design, Microservice Architecture, Agile