Diya Khetarpal

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Education

Maharaja Agrasen Institute of Technology,Delhi *Nov 2022 - Jul 2026*
BTech in Computer Science and Technology

- GPA: 8.8/10 (ranklist ☑)
- **Specialization:** Artificial Intelligence and Machine Learning

Experience

IIT Delhi Delhi
AIML Intern *Sept 2024 - Jan 2025*

- **Cost-Optimized Surveillance System**: Redesigned food security monitoring infrastructure across 8 Indian warehouses, slashing deployment costs by **60%** through **Jetson Edge Computing** and Dockerized microservices.
- **Real-Time Motion Detection**: Implemented **ResNet** models on the Jetson Orion Nano device achieving **97%** motion detection accuracy with **800ms** latency, triggering YOLOv8-based anomaly detection during the activity window.
- **Edge-to-Cloud Reliability System**: Engineered **Dockerized** camera architecture with automated reattachment (3-retry logic) integrated with **Firebase**, processing 37 streams images across **8+** edge devices.

DBlockchainers *Remote*
NLP Research Intern *June 2024 – Sept 2024*

- **End-to-End NLP Framework**: Built **35+** models from scratch (Word2Vec to BERT) using **PyTorch Lightning**, achieving **SOTA 94%** accuracy on **ChartFact** through novel embedding fusion (**GloVe + FastText**)
- **Large-Scale Evaluation Engine**: Designed automated testing pipeline for 5+ datasets (**1.4M samples**) with **Hydra Configuration**, boosting model recall by **20%** via strategic negative sampling.
- **Production Optimization**: Quantized Transformer models with **ONNX** Runtime, reducing **inference latency** by **65%** (48ms → 17ms) while maintaining **1%** accuracy drop.

Projects

GestureVerse : Sign Language Conversion System *github ☑*

- Developed real-time sign language translation system converting speech/text to animated 3D sign avatars, improving accessibility for **deaf community** users.
- Engineered **full-stack** architecture using Django web framework with **WebSocket** integration for low-latency communication
- Implemented **NLP Pipeline** using NLTK for text processing and **TF-IDF** vectorization with **95%** intent recognition accuracy
- Integrated **Three.js** for real-time 3D avatar animation rendering with 60 FPS performance
- Tools: Django · TensorFlow · Three.js · WebSocket · NLTK · SQLite

NeuroDrive Car : Autonomous Simulation *github ☑*

- Developed end-to-end autonomous driving system using **Deep Reinforcement Learning (PPO)** and **GNNs** achieving **92%** collision-free navigation in dynamic environment.
- Implemented evolutionary neural networks via **NEAT Algorithm**, resucing training iterations by **35%**
- Built interactive **Streamlit** dashboard for hyperparameter tuning and trajectory visualization
- Tools: Python · TensorFlow · GNN · NEAT · AWS · Streamlit · PyTorch

Technologies

Skills: C++, Python, Java, Reactjs, Prolog, Machine Learning, Deep Learning, NLP, Data Analysis, Neural Network, RAG, GenAI, AgenticAI, SQL, YOLO, Django, Flask, Streamlit, TensorFlow, Sci-kit learn, Langchain

Tools and Technologies: Git, Github, Docker, Excel, PowerBI, Tableau, PowerPoint, AWS, Colab, PyCharm, Anaconda, Kubernetes

Achievements

- **Google Girl Hackathon 2025 Grand Finalist (Top 6)** - Built timing voilation detector in RTL Code using GNN and PyTorch Geometric ☑
- **2nd Place - CodeClash Hackathon (BVCOE 2024)** - Developed AR/VR psychiatrist with Unity3D and OpenAI GPT-3.5 integration for stress therapy ☑
- **Top 20 - Naukri Women Code 2025**- Scored position in Women Coding organised by Naukri on Women's day ☑
- **IBM Skillsbuild FEWD 2024 Winner** - Created IoT water management platform using React.js ☑