

EDUCATION

University of California San Diego <i>Master of Science, Data Science</i> Teaching Assistant for DSC-261: Data Ethics, DSC-291: Statistical Models	September 2022 – December 2024 GPA (3.98/4.0)
Delhi Technological University, New Delhi <i>Bachelor of Technology, Mathematics and Computing Engineering</i>	August 2018 – June 2022 CGPA (8.73/10)

WORK EXPERIENCE

Machine Learning Engineer <i>Prompt Inversion AI, Dover, Delaware</i> <ul style="list-style-type: none">Developed and optimized an LLM-driven API service utilizing a multi-agent AI platform for intelligent task automation.Leveraged Pinecone vector database for similarity search in the RAG pipeline and refactored codebase for scalability.	September 2024 – Present
Analytical Scientist Intern <i>FICO, San Diego, California</i> <ul style="list-style-type: none">Implemented an adaptive time-series algorithm to monitor the output of a State-of-the-Art fraud detection neural network and trigger real-time alerts for significant shifts in distributions. Validated the algorithm for 15 major clients.Developed an ETL pipeline to compute and visualize the distributions of terabyte-scale transaction datasets using PySpark.Conducted calibration experiments to simulate drastic shifts in customer behavior and cluster sophisticated fraud schemes.	June 2023 – December 2023
Research Engineer <i>Collablens, Haryana, India Funded by MIT Media Lab</i> <ul style="list-style-type: none">Deployed an AI station for automated drop testing of flour packets. Developed cloud-based modules for Spillage Detection, Pose Estimation, Orientation Checks, Depth Sensors, and other real-time insights from live video streams.Helped secure a contract to deploy the system in 50 factories. Helped raise over \$200,000 in investment offers.Prototyped a versatile Computer Vision System for real-time defect detection in laser-engraved wooden boards on a moving assembly line. Achieved 95% accuracy and a mean inference time of 2.5 seconds per board.	January 2022 – September 2022
Machine Learning Intern <i>Hypertechpreneurs, Haryana, India</i> <ul style="list-style-type: none">Productionized a Vehicle Damage Detection Model utilizing Mask R-CNN for Instance Segmentation to automate vehicle inspections. Extrapolated it to a Severity and Cost Estimation pipeline. Helped raise over \$50,000 in funding.Developed systems for OCR and Object Detection in dynamic environments while maintaining a minimum accuracy of 90%.	May 2021 – December 2021

PROJECTS

GPT Document Proofreader App <ul style="list-style-type: none">Developed a Python GUI application for multi-format document proofreading and grammar correction using <i>GPT-4o mini</i>.Integrated customizable context-aware prompts, asynchronous processing, and efficient caching and rate-limiting mechanisms.	August 2024 – September 2024
Rubik's Cube 3D Visualizer & Deep Reinforcement Learning Solver <ul style="list-style-type: none">Developed NxN Rubik's Cube 3D visualizer and implemented Monte Carlo Tree Search algorithm optimized with a Deep Reinforcement Learning ResNet. Achieved 71% solution rate for 9-move scrambles and sub-second solving times.	August 2024 – September 2024
MediLoRA: LLM for medical Q&A with QLoRA <ul style="list-style-type: none">Fine-tuned OpenHermes-2.5-Mistral-7B with Q-LoRA on 300M medical text tokens. Improved PubMedQA and MedQA accuracy by over 20% and matched State-of-The-Art models on MMLU-Medical with 0.05% of the data size.	October 2023 – January 2024

RESEARCH EXPERIENCE AND PUBLICATIONS

Research Fellow under Prof. H.C. Taneja, Delhi Technological University <ul style="list-style-type: none">Sood, S., Jain, T., Batra, N., Taneja, H.C. (2023). Black-Scholes Option Pricing Using Machine Learning. [ICDSA 2023]	September 2021 – May 2022
Research Assistant under Prof. Anurag Goel, Delhi Technological University <ul style="list-style-type: none">S. Sood and Y. Ahuja, "Selective Lossy Image Compression for Autonomous Systems." [STSIVA 2021]	February 2021 – August 2021

TECHNICAL SKILLS

- Programming** : Python, SQL, R, C++, MATLAB, JavaScript, HTML, CSS
- Technologies** : Pandas, PyTorch, Keras, TensorFlow, Git, OpenCV, AWS, PostgreSQL, JAX, Bash, PySpark, Docker
- Skills** : Data Science, Deep Learning, Data Engineering, Computer Vision, Natural Language Processing, MLOps