Varnica Sharma

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Education

Chandigarh University **Sep 2021 – May 2024**
B.Sc. in Computer Science, Statistics and Mathematics *Kharar, Punjab*

Manipal Academy of Higher Education **Aug 2024 – May 2026**
M.Sc. in Data Science *Manipal, Karnataka*

Experience

Code Clause **Oct 2023 – Nov 2023**
Data Science Intern *Remote*

- Applied essential machine learning methods on sample datasets.
- Applied data visualization to communicate insights from exploratory data analysis.
- Practiced interpreting data analysis results and summarizing insights in clear terms.

Projects

Public Perception Analysis of Indian Government Health Policies | *Python, spaCy, scikit-learn* **2025**

- Processed **1,196 Reddit comments** (735 for classification + 461 added for clustering) with a **spaCy** pipeline for tokenization, lemmatization, and text cleaning; generated emotion labels using **NRCLex**.
- Benchmarked **five ML models**—SVM, Naïve Bayes, Decision Tree, KNN, and Random Forest—achieving a **41.5%** best accuracy with **SVM** under low-data settings.
- Determined **k=5** via Elbow Method; compared **K-Means (94.6% SVM accuracy)** and **BERTopic (52.5%)** for thematic clustering and topic coherence.
- Validated **DistilBERT (40.4%)** against a **3-rater, 100-comment gold set**, performing qualitative error checks to interpret model misclassifications.

Graph Neural Network for Alzheimer's Diagnosis | *Python, PyTorch Geometric, GCN, Streamlit* **2025**

- Built a multi-modal Alzheimer's GCN on ADNI data (demographics, cognition, CSF, MRI) with modality-weighted k-NN patients.
- Exposed the model via an explainable Streamlit app showing probabilities, modality impact, and similar-case exemplars.
- Ensured patient-level splits, fairness checks (gender/APOE/age), and reproducible PyTorch Geometric deployment.

Technical Skills and Interests

Languages: Python, SQL
Data Science Tools: VS Code, Jupyter, Google Colab, Jamovi
Tools: Excel, PowerBI
Areas of Interest: Machine Learning, Data Visualization, Data Analysis
Soft Skills: Problem Solving, Communication, Adaptability, Time Management, Resilience, Precision-Oriented

Academic and Professional Contributions

- **Participant** in **Novo Nordisk GBS Hackathon 2025** – *"Automated Tool for eCRF Comparison and Consolidation"*, contributing innovative data-driven solutions in the healthcare domain.
- **Corporate Advisory Board Member** (2021 – 2023), actively contributing to strategic decision-making, academic-industry collaboration.