ECHURI PRAGNA

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Summary

Machine Learning and Data Science enthusiast with hands-on experience in **Python**, **data visualization**, **deep learning**, and **statistical modeling**. Experienced in deriving actionable insights from data to address real-world challenges and enhance decision-making. Keen on learning and adapting to emerging data science methodologies to solve complex problems.

Education

Indian Institute of Information Technology, Design and Manufacturing, Kurnool **2022 – 2026**
B.Tech in Artificial Intelligence & Data Science *CGPA – 8.52*

Narayana Junior College, Kurnool **2020 – 2022**
Higher Secondary Education *Percentage – 98%*

Technical Skills

Languages & Tools: Python, C/C++, HTML/CSS, PowerBI, Jupyter Notebook, VS Code, Git/Github
Libraries & Frameworks: NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Tensorflow, Pytorch
Data Science & Machine Learning : EDA, Feature Engineering, Model Training & Evaluation, ML Algorithms
Deep Learning: CNN, Computer Vision, Natural Language Processing
CNN Applications : Transfer Learning, Data Augmentation, Image Classification
Relevant Coursework: Data Analysis & Visualization, Machine Learning, Deep Learning, Probability & Statistics

Experience

Research Intern at NITK Surathkal **May 2025 - Aug 2025**
Graph Neural Networks *Certificate*

- Applied **Graph Neural Networks (GNNs)** to analyze **Protein–Protein Interaction (PPI) networks** by modeling proteins as nodes and interactions as edges.
- Developed robust data preprocessing pipelines and learned protein representations to predict interaction strengths using **STRING v12.0** human PPI data.

Samsung PRISM Research Intern **Remote**
Computer Vision & Deep Learning *Certificate*

- Developed an **image-to-video generation pipeline** for **Samsung PRISM**, ensuring motion consistency by integrating **YUV image processing**, text-to-video alignment, and temporal coherence techniques.
- Engineered motion synthesis using **transformer-based models** and optimized video generation performance with **Python**, **TensorFlow**, **Keras**, **OpenCV**, and **NumPy**.

Projects

Advanced Sentiment Analysis Using Big Data & Deep Learning — Source Code

- Developed a scalable data processing pipeline using **Hadoop** and **PySpark** for real-time sentiment analysis on large-scale **Twitter data**, enabling efficient extraction of actionable insights.
- Benchmarked traditional ML models (**Naive Bayes**, **Random Forest**, **Gradient Boosting**, **XGBoost**) achieving an average accuracy of **82%**, and implemented a **hybrid deep learning model** combining **BERT tokenizer**, **BiLSTM**, and **Fuzzy C4.5** to boost accuracy to **90%**.
- Delivered state-of-the-art results with the **Fuzzy C4.5** hybrid model, reaching **92.67% accuracy** and **90.91% precision**, outperforming traditional models by over 10% and improving sentiment prediction reliability.

Emotion-Aware AI Diary — Source Code

- Developed a real-time multi-modal emotion recognition system by fine-tuning **DistilBERT** on the **GoEmotions** dataset for text-based emotion detection and training a **CNN** on **FER+** for facial expression analysis.
- Built a modular and scalable AI pipeline using **PyTorch**, **OpenCV**, and **HuggingFace Transformers**, integrated into a diary-style interface for continuous emotion logging and **sentiment trend visualization** over time.

Certifications

- **Python Badge (Gold Level)** | **Problem Solving (Basic)** – HackerRank Certificate

Extracurricular Activities

- **National Entrepreneurship Challenge (NEC) – Team Member**
  Hosted by **IIT Bombay**, contributed to strategy, outreach, and ideation tasks as part of the E-Cell team.