MANOHAR DARLA

manohardarla2@gmail.com Manohar Darla ManoharDarla2 Portfolio

CAREER OBJECTIVE

Passionate about transforming complex ideas into elegant software, I seek a role that challenges me to collaborate across disciplines, learn rapidly, and deliver meaningful impact.

EDUCATION

2022 - current	BTech in Computer Science and Engineering - IIT Palakkad	(CGPA: 6.69/10)
2022	Class 12th - NARAYANA JUNIOR COLLEGE	(81%)
2020	Class 10th - ST ANN'S (EM) High School	(98%)

TECHNICAL SKILLS

Languages: Python, C++.
Technologies & Frameworks: Pandas, NumPy, Scikit-learn,Tensorflow, Hadoop, Spark,PyTorch,Pyglet.
Full-Stack: HTML, CSS, Javascript, Flask, PostgreSQL.
Tools: Git, GitHub, OpenCV, Jupyter Notebook, Lex/Yacc ,Excel.

PROJECTS

- **Generative Neural Networks for Renewable Energy Forecast Error Modeling**
  - Designed and benchmarked multiple deep generative models to learn the high-dimensional joint distribution of renewable energy forecast errors and actual power outputs.
  - Built a complete experimentation pipeline including hyperparameter search, scalability analysis, and sample generation across both FE and AP datasets, enabling systematic comparison of generative fidelity and training stability.
  - Developed a high-performance Transformer-based WGAN architecture that captures complex cross-plant dependence, providing realistic renewable energy scenarios for probabilistic forecasting and grid-operation decision support.
- **Recipe RAG**
  - Designed and implemented a Recipe Retrieval-Augmented Generation (RAG) system using FAISS and dense embeddings to generate grounded, hallucination-free recipe responses without retraining LLMs.
  - Built a hybrid search pipeline combining semantic title search, ingredient-level NLP (negation handling, fuzzy matching), and full-recipe vector retrieval for accurate and flexible recipe discovery.
  - Enabled practical recipe customization such as ingredient constraints, serving adjustments, and time-aware modifications by ranking retrieved recipes with an LLM using verified context only.
- **University Management System**
  - Built a full-stack University Management System using Flask PostgreSQL with role-based authentication.
  - Designed a BCNF Normalized database to automate registration and grade workflows.
  - Implemented course enrollment with credit caps, seat validation, and real-time GPA computation.
  - Secured authentication via SQLAlchemy ORM, parameterized queries, and PostgreSQL role-based access control.

RELEVANT COURSEWORK

Data Structures and Algorithms, Introduction to Artificial Intelligence(AI), Introduction to Machine Learning(ML), Operating Systems, Compiler Design, Big Data, Cloud Computing, Geometric computer vision, Information Retrieval, Software engineering, Computer networks and internet protocol, Probability and Statistics.

LEADERSHIP & RESPONSIBILITIES

- **Co-Head, Novare Club:** Drove club initiatives and improved member engagement by leading event planning and public communication efforts.
- **Hostel Representative:** Served as the primary point of contact for hostel residents, managing communication and resolving logistical issues efficiently.
- **Support Team, Petrichor 2023:** Collaborated within a large team to ensure the smooth execution of a major college fest, gaining experience in large-scale event coordination and process management.