PAVAN KUMAR DHARMOJU

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EDUCATION

Northwestern University, Chicago - M.S. in Artificial Intelligence. **GPA: 3.91/4.0** **August 2023- Present**
Coursework: *Natural Langugage Processing, AI Industry Practicum, Deep Learning, Deep Reinforcement Learning, Design & Analysis of Algorithms, Frameworks for AI, Human-Computer Interaction, Data Science Seminar*
Indian Institute of Technology Madras - Diploma in Data Science**.**
Coursework: *Business Analytics, Business Data Management, Computational Thinking, Database Management Systems, ML Foundations, ML Practice, ML Techniques, Mathematics for Data Science, Programming in Python, Statistics for Data Science, Tools in Data Science*
Chaitanya Bharathi Institute of Technology, Hyderabad - B.E in Electrical and Electronics

WORK EXPERIENCE

Data Science Research Assistant, Feinberg School of Medicine, Evanston, IL Jan 2024 - Present
- Created a ResNet18-based model, with a geographical atrophy detection accuracy of 95%.
- Enhanced model precision by 25% through image processing, boosting early and accurate ocular disease diagnosis.
- Facilitated interdisciplinary collaboration, resulting in a scalable diagnostic tool poised to improve ocular health.

Machine Learning Research Assistant, CASMI, Northwestern University, Evanston, IL Jan 2024 - Present
- Led bias research and mitigation at CASMI, enhancing fairness and accuracy in AI-driven recommendation systems.
- Conducted empirical studies on LLM biases, developing strategies that measured recommendation system fairness.
- Pioneered novel bias quantification techniques for LLMs, improving recommendation system reliability and equity.

Business Technology Analyst, Deloitte USI, Hyderabad,
- Spearheaded data-driven strategies on Salesforce CRM, significantly enhancing customer satisfaction.
- Streamlined DevOps processes, enhancing the efficiency of software delivery across the team.
- Automated routine tasks using Python, liberating 20 man-hours weekly and substantially reducing manual errors.

Intern, Bharat Heavy Electricals Limited, Hyderabad
- Assessed electrical generator production phases, gaining insights into the complexities of electricity demand prediction and operational challenges.

TECHNICAL SKILLS

- **Programming Languages**: Python, C++, R, SQL, MySQL, PostgreSQL, Java, Scala, Julia.
- **Tools:** Git, Docker, Kubernetes, Azure, AWS, Ant, JIRA, Neo4j, MongoDB, Redis, Cassandra, ElasticSearch, Ansible, Terraform, Jenkins, Puppet, Splunk, QlikView, Looker, RapidMiner, H2O.ai.
- **Frameworks:** FastAPI, Hadoop, Apache Spark, Apache Kafka, Google Cloud Platform (GCP), IBM Watson, MATLAB, SAS, Keras, OpenCV, XGBoost, LightGBM, CatBoost, Apache Flink, TensorFlow Extended (TFX), Apache Beam, Airflow, MLflow, D3.js, Plotly, Dash, Power BI, Alteryx, KNIME.
- **Machine Learning/ Data Visualization:** Scikit-Learn, PyTorch, Tensorflow, Pandas, NumPy, Seaborn, Tableau.

TECHNICAL EXPERIENCE

Electrical Load Forecasting Using Deep Learning Approach (LSTM) - CBIT [Thesis Project]
- **Overview:** This research project has developed a state-of-the-art forecasting model to predict monthly residential electricity demand with 94.3 percent accuracy, essential for optimizing power system planning in the context of increasing global energy demand. The model utilizes a dataset covering 41 years of U.S. energy consumption, enriched with nine socio-economic and weather-related variables. By employing Long Short-Term Memory (LSTM) networks, the approach outperforms traditional benchmarks across several key performance metrics.
- **Tech Stack:** LSTM Networks, Python, Pytorch, Seaborn, Docker, FastAPI.

Hotel Ranker Project with NLP - IIT Madras.
- **Overview:** This project leverages a Kaggle dataset of over 100,000 global hotel reviews, employing an ensemble method including a binary classifier with the Bidirectional Encoder Representations from Transformers (BERT) model. It accurately deciphers customer sentiments from reviews, categorizing them into positive, negative, or neutral. The system then ranks hotels by calculating a weighted average considering sentiment scores, review word counts and reviewer ratings. This identifies key drivers of customer satisfaction and provides stakeholders with actionable insights for strategic decision-making in the tourism industry.
- **Tech Stack:** BERT, Python, Pytroch, Seaborn, Docker, FastAPI, Tableau.

RESEARCH PUBLICATIONS

- **"Forecasting Electrical Demand for Residential Sector Using Deep Learning"**, IEEE AIMV, 2021. [Link]
- **"Ranking System for All Tourism Related Industries Using NLP Approach"**, IEEE ICCCNT, 2022. [Link]
- **"Graph Convolutional Networks: Adaptations and Applications"**, IJISRT, 2021. [Link]

AWARDS AND CERTIFICATIONS

- **SPOT award at Deloitte** for parallelly handling Deployments and Development
- **Salesforce**: Tableau CRM and Einstein Discovery Consultant, Certified Administrator, Certified Platform Developer 1, Certified Platform App Builder.