DSN Naven Kumar

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CAREER OBJECTIVE

A dedicated Machine Learning Engineer with over 2.3 years of experience specializing in supervised and unsupervised learning, deep learning, and NLP. Proven expertise in optimizing model inference and deploying scalable, high-performance solutions to solve real-world AI challenges.

PROFESSIONAL EXPERIENCE

Machine Learning Engineer, Exafluence

Bangalore, India | Feb 2023 – Present

- Solve complex supervised and unsupervised learning challenges using advanced deep learning techniques.
- Optimize machine learning inference and deploy models efficiently for scalable, high-performance applications which help to get several clients for us

Sensor Health & Anomaly Analytics

- **Developed a scalable end-to-end sensor health monitoring system** using custom clustering and anomaly detection algorithms, achieving **95% accuracy** in identifying irregularities across **10,000+ sensors and gateways**. The solution processes data in real-time, enabling proactive maintenance and reducing unplanned downtime by **40%** through early defect detection.
- **Reduced maintenance costs by 25%** and improved operational efficiency by delivering actionable insights via a unified dashboard, empowering customers to resolve 80% of anomalies within 2 hours. The system's modular architecture supports seamless scaling to **50,000+ devices**, ensuring sustained performance optimization for diverse IoT deployments

AI-Powered Applications

- Developed an NLP-SQL chatbot with **80% accuracy**, cutting database analysis time by **40%**, and integrated a RAG framework that sped up query processing by **60%** while improving information relevance by **25%**
- Fine-tuned advanced NLP models and integrated a vector database with a Retrieval-Augmented Generation framework for optimized query processing.
- Delivered an end-to-end solution that streamlined database interactions, empowering users with self-service data access and contributing to an estimated **15% reduction** in reliance on data analysts for standard queries.
- Engineered a comprehensive NER pipeline to extract diverse entities from unstructured documents for actionable insights. Developed an automated, end-to-end solution using Spacy and advanced NLP models to systematically classify key entities.
- **Developed a document Q&A chatbot for research paper analysis**, leveraging RAG-based vector databases and a custom fine-tuned LLM to reduce client document review time by **80%**, enhancing efficiency in data extraction and knowledge discovery workflows.

TECHNICAL SKILLS

- Machine Learning & Deep Learning: CNNs, RNNs, Transformers, Model Training & Fine-Tuning, Transfer Learning, TensorFlow, PyTorch
- Natural Language Processing: Named Entity Recognition, Text Classification, Sentiment Analysis, spaCy, NLTK, Large Language Models (LLMs)
- Computer Vision: Image Classification, Object Detection, Image Segmentation, Feature Extraction, OpenCV, PIL
- Tools & Technologies: Python, SQL, Git, Docker, Kubernetes, AWS, Azure, MLflow, DVC, FastAPI, Flas

Education

Bachelor of Engineering in ECE 2017-2021
JNN College Affiliated to Anna University, Chennai, India CGPA: 8.3

Certificates

- Deep Learning Specialization, deeplearning.ai (Sep 2022 – Dec 2022)
- TensorFlow Developer Specialization, deeplearning.ai (Aug 2022 – Oct 2022)