DSN Naven Kumar

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CAREER OBJECTIVE

Machine Learning Engineer with over 4 years of overall experience, including 2.4 years in professional roles and 1.8 years in internships. Skilled in supervised and unsupervised learning, deep learning, and NLP. Proven track record in optimizing model inference and deploying scalable, production-grade AI solutions to solve real-world problems efficiently.

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, Fast API, Flask.

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)