

NIKHIL CHOWDARY PALETI

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EDUCATION

Master of Science in Data Science University of California San Diego	Sep 2024 - Jun 2026 (Expected)
B.Tech in Computer Science and Engineering (Artificial Intelligence) Amrita Vishwa Vidyapeetham University, India First Class with distinction	Oct 2020 - Jun 2024 GPA: 9.15/10

SKILLS

Technical Skills	Programming (Python, Scala, SQL, C++), Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Generative AI, Large Language Models (LLMs)
Techniques	Data Analysis, Feature Engineering, Model Evaluation, Transfer Learning, Fine-tuning LLMs, Prompt Engineering, Statistical Analysis
Tools & Software	PyTorch, TensorFlow, Scikit-Learn, Hugging Face Transformers, LangChain, NumPy, Pandas, PySpark, Git, Google Cloud Platform, Gemini API

EXPERIENCE

AI Engineer TechProfuse <i>Python, Gemini LLM, Google Vision API, CV2, ML, REST APIs</i>	Jun 2023 - Aug 2024 <i>Hyderabad, India</i>
<ul style="list-style-type: none">Implemented unstructured data extractor using Gemini 1.5 Pro LLM, processing 50k OCR documents in 15 hours with multiprocessing optimization.Led 3-intern team in image-to-image translation project, integrating Google Vision API and CV2 to convert 100% of English text to Dutch in scientific diagrams.Developed Vision API parser for TIFF images, reducing document processing costs by 95% compared to AWS solution.Designed mobile app backend with Google Vision API and YOLO object detection models, achieving 99% accuracy in extracting text, numeric, and OMR data from form images.Built customer data dashboard using REST APIs, reducing support team's data retrieval time by 70% and improving response efficiency.Automated email classifier and thread summarizer using Gemini 1.5 Flash model, processing 1000+ daily emails with 95% accuracy, streamlining communication workflow.	

PROJECTS

Indic Verse: Advanced Indic Language LLM System <i>Tech Stack: Python, PyTorch, Hugging Face Transformers, PEFT, NLP</i>	Jan 2024 - Apr 2024 [Hugging Face]
<ul style="list-style-type: none">Engineered English-to-Indic translation and transliteration modules, processing 3 types of datasets for model training.Processed 1M+ sentences from 6+ datasets to create a robust training dataset for the Indic language models.Fine-tuned 3 LLM models (Gemma 2B, Gemma 7B, LLaMA 3 8B) using PEFT techniques, improving performance on Indic language tasks.	
ChoreBot: Voice-Controlled Robotic Navigation System <i>Tech Stack: Python, Whisper ASR, YOLOv3, DistilBERT, A* Algorithm</i>	Sep 2023 - Dec 2023 [Video Demo]
<ul style="list-style-type: none">Achieved 95% success rate in autonomous navigation tasks with AI-powered 2D robotic navigation system.Integrated Whisper ASR (98% accuracy) for voice recognition and DistilBERT-NLU (95% accuracy) for command understanding.Implemented YOLOv3 for object detection and A* algorithm for real-time path planning.	

PUBLICATIONS

- An analysis of data leakage and generalizability in MRI based classification of Parkinson's Disease using explainable 2D Convolutional Neural Networks.* **Digital Signal Processing**, Volume 147. [\[Link\]](#) **Apr 2024**
- Enhancing Knee Osteoarthritis severity level classification using diffusion augmented images.* **Proceedings of ICACECS**, pp. 266-274. [\[Link\]](#) **Dec 2023**
- Improving Reinforcement Learning Agent Training using Text based Guidance: A study using Commands in Dravidian Languages.* **DravidianLangTech**. [\[Link\]](#) **Sep 2023**

ADDITIONAL INFORMATION

- Workshop:** Conducted "LLM Applications using LangChain" for 200+ students at Anoka Tech Fest **Apr 2023**
- Certification:** Deep Learning Specialization - Coursera, instructed by Andrew Ng **Feb 2023**