NIVEDHITHA DONDATI PURUSHOTHAM

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EDUCATION

UNIVERSITY OF MICHIGAN, ANN ARBOR **Ann Arbor, USA**
Master of Science, **Computer Science and Engineering** *May 2026*
***CGPA:** 3.63/4*
Relevant Coursework: NLP, Artificial Intelligence, Human Computer Interaction, Data Information Visualization,

R.M.K. ENGINEERING COLLEGE **Chennai, India**
Bachelor of Technology, **Artificial Intelligence and Data Science** *May 2024*
CGPA: 3.98/4, Department Rank 2, Best Outgoing Student Award, ISTE State Level Best Student Award
Relevant Coursework: Data Analysis, Data Science, Machine Learning, Deep Learning, NLP, AI

EXPERIENCE

FORGE INNOVATION AND VENTURES *June'24 – No*
Graduate Innovation Engineer

- Developed and optimized software solutions using Python and Java, creating dynamic web and mobile applications to streamline industrial automation processes and enhance user experience and platform usability.
- Led a team to develop and deploy a Smart Mesh Automated System using IoT technology, resulting in a 30% increase in energy efficiency and a 20% reduction in operational expenses.
- Managed concurrent tasks involving software development, team leadership, and project deployment to ensure timely and efficient completion.

PRISMATIC SOFTWARE PVT LTD, PUNE *Nov'23*
Software Engineer Intern

- Developed a conversational AI for healthcare support using ML, NLP - LSTM and DIET Classifier to optimize customer interaction and enhance patient care.
- Implemented an automatic handwritten prescription handling system, improving the accuracy and efficiency of prescription processing.
- Handled multiple project components simultaneously, such as system design, code development, and process optimization, ensuring seamless integration and functionality.

PROJECTS

SEMANTIC & DYNAMIC GAUSSIAN SPLATTING FOR ROBUST DEXTEROUS MANIPULATION *Jan'25 - Present*
Research Assistant, PROGRESS Lab, Under Prof Chad Jenkins, Robotics, University of Michigan

- Collaborated with Amazon's Lab126 CoRo Astro team, aligning research objectives with industry standards under the guidance of PI Prof. Jenkins.
- Applied Visual Language Models (VLMs) for robotic manipulation tasks, enhancing perception and dynamic simulation.
- Led experiments with Fetch robots on "Undo-Redo" tasks, involving object manipulation.

KARNATAKA ACCIDENT DATA ANALYSIS *May'24*

- Developed a real time advanced data analysis system using a comprehensive dataset of Bangalore traffic accidents to identify accident patterns and high-risk locations as a part of the National Police Hackathon.
- Utilized machine learning techniques to analyze and synthesize findings, improving traffic deployment and safety measures which was forecasted to increase the performance by 30%.
- Conducted concurrent data analysis tasks and direct stakeholder communications to drive project success.

Tech Stack: Sklearn, Numpy, Pandas, Matplotlib, Framework: Django (web)

CONVERSATIONAL AI FOR HEALTHCARE TO IMPROVE MEMBER EFFICIENCY *Oct'23*

- Led a team of 6 and won the Virtusa Jatayu 2023, India-SriLanka corporate Hackathon.
- Developed an integrated an AI based chatbot for streamlining multiple fundamental processes such as appointments, donations, ambulance services, and home remedy recommendations using NLP Techniques and ML Models to improve the member efficiency by 40%.
- Performed Entity Extraction, Dialogue management & response retrieval based on manually curated datasets.

Tech Stack: LSTM, NLU, Web: HTML, CSS, 3D Environment: FrameVR

HUMANIZED VISUAL QUESTION ANSWERING SYSTEMS *Sep'22*

- Led a team of three to develop a system integrating advanced NLP and computer vision techniques to answer image content questions (VQA) with human-like understanding, incorporating feedback loops and bias mitigation strategies.
- Implemented a multi-model architecture using reinforcement learning for model refinement and follow-up questions to improve confidence scores, enhancing user interactions through text and audio responses.

Tech Stack: TensorFlow, PyTorch, Numpy, Pandas, Vision-Language (VLA), Transformer-based models (BLIP, BLIP2), Gradio

TECHNICAL EXPERTISE

- Programming & Development: Python, C, C++, Java, SQL, Django, Git, JavaScript, SQL, HTML, CSS
- ML, NLP & CV: TensorFlow, PyTorch, Scikit-Learn, OpenCV,LLMs, VLMs, VQAs, RASA, NLTK, Hugging Face
- Design and Visualization: Figma, WordPress, Tableau, Power BI, Altair, QuickSight

PATENT

Published an Indian Patent on the title Smart Attendance System", [202241019799]; March 2022