VINOD NAYAK DEVAVATH

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Education

State University of New York at Buffalo (CGPA: 3.1/4.0)   **Buffalo, New York**
Master of Science in Engineering Science (Artificial Intelligence and Robotics)   *Aug. 2023 – Dec. 2024*
Relevant Coursework: Introduction to Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision and Image Processing, Reinforcement Learning, Robotics Algorithms, Robotics, Robot Control Systems, and Analysis of Algorithms.

VNR Vignana Jyothi Institute of Engineering and Technology (CGPA: 3.2/4.0)   **Hyderabad, Telangana**
Bachelor of Technology in Computer Science Engineering   *Jul. 2018 – Jun. 2022*
Relevant Coursework: Python, Java, Linux, Web Technologies, Data Structures and Algorithms, Database Management System.

Work Experience

iBridge Techsoft   **Onsite**
Machine Learning Intern   *Sep. 2022 – May 2023*

- Developed and fine-tuned ML models for **Computer Vision** and **NLP**, improving classification accuracy by **15%**.
- Engineered scalable data pipelines for processing large datasets, reducing preprocessing time by **30%**.
- Implemented transfer learning techniques **(VGG16, ResNet)** to enhance model performance on limited labeled data.
- Optimized hyperparameters using **Grid Search** and **Bayesian Optimization**, achieving **10%** better model efficiency.
- Integrated AI models into production using **Docker**, **FastAPI**, and **AWS Lambda**, reducing inference latency by **25%**.
- Worked cross-functionally with engineers and data scientists to integrate ML solutions into **real-world applications**.
- ***Tech stack:*** *Python, TensorFlow, PyTorch, OpenCV, Hugging Face Transformers, FastAPI, Docker, AWS, SQL.*

Projects

AI-Powered Healthcare Chatbot   *Aug. 2024 – Dec. 2024*

- Designed and implemented an AI-driven **healthcare chatbot** fine-tuned on the **MedQuad dataset** to provide accurate medical assistance.
- Integrated **appointment booking** & **medication reminders**, improving user engagement and patient interaction.
- Deployed chatbot via **Flask API** with **Twilio** integration for seamless SMS notifications.
- ***Tech stack:*** *Flask, HuggingFace Transformers, SQLite, APScheduler, Twilio API.*

Facial Recognition-based Voting System   *Aug. 2023 – Dec. 2023*

- Developed a secure online voting system using **facial recognition** to reduce voter fraud risks.
- Fine-tuned **VGG16** on **6500 images**, achieving **91%** accuracy for identity verification.
- Implemented **real-time face detection** using Haar Cascade classifiers for live webcam authentication.
- ***Tech stack:*** *TensorFlow/Keras, OpenCV, Haar Cascade, VGG16 Convolutional Neural Network.*

Integrated Approach for Suicidal Tendency Detection   *Oct. 2021 – Jun. 2022*

- Developed a multi-modal AI system analyzing **facial gestures**, **text sentiment**, and **voice patterns** to detect suicidal intent. Employed **FER-2013**, **RAVDESS**, and **SAVEE** datasets for training **NLP** and **Computer Vision** models.
- Developed a **real-time Android application** for user-centric detection with **Flutter**.
- As a secondary goal, the correlation between neutral emotions and suicidal tendencies was explored.
- ***Tech stack:*** *PyTorch, Convolutional Neural Network, Natural Language Processing, Support Vector Machine, Flutter.*

Technical Skills

Programming Languages: Python, Java, C++, C, Linux, MySQL, Hadoop, Robot Operating System.

Machine Learning: Supervised and Unsupervised Learning, Reinforcement Learning, Time-Series Analysis.

Natural Language Processing : RNNs, Transformers, GPT, Hugging Face, NER, Sentiment Analysis, LSTM, GRU.

Computer Vision: Convolutional Neural Networks, Object Detection (YOLO), OpenCV, GANs.

MLOps & Deployment: TensorFlow, PyTorch, Docker, AWS, FastAPI, Flask, MLflow, Kubernetes.

Development Tools: Jupyter Notebook, Google Colab, Visual Studio Code, Matlab, Git.

Certificates

AWS Certified Cloud Practitioner   *Amazon Web Services*
Generative AI and LLMs: Architecture and Data Preparation   *Coursera, IBM*
Gen AI Foundational Models for NLP and Language Understanding   *Coursera, IBM*