Masabattula Teja Nikhil

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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
MS Research. Major	Indian Institute of Technology Indore	0.00 (Current)	2024-Present
B.Tech. Completed	Amrita Vishwa Vidyapeetham, Bangalore	9.13	2024
Senior Secondary	Telangana State Board	97.7%	2020
Secondary	Telangana Secondary Board of Education	100%	2018

Experience

- **Juniper Networks (MIST)** *Jan 2024 - July 2019*
  Network Automation Intern Bangalore, Karnataka
  – Worked with different Machine Learning Models for abnormal Access point detection
  – Incorporated scripts using python and selenium to develop automation frameworks for access point testing
  – Created a personal chatbot using large language models for personal information retreival.

- **Nala Robotics** *July 2022 - Sept 2022*
  ROS Intern Hyderabad, Telangana
  – Worked on creating a mobile co-bot for a kitchen manipulators using ROS software and real time sensors
  – Gained real time experience working with ROS software and robotic manipulators

- **Acceleron Labs Pvt Ltd** *October 2021 - May 2022*
  Student Intern Bangalore, Karnataka
  – Worked on NLP projects using NVIDIA NeMo libraries, contributing to the enhancement of user queries and emotions of the bot.

Projects

- **A Centralized DNN Framework for converting printed books to audio books** *2023 - 2024*
  Tools - OCR | Transformers | Speech Synthesizers | FlaskAPI | Android Studio | Python
  – Designed a full-fledged android application capable of handling API calls for images and text.
  – Fine tuning MT5 transformer, mbert, OCR for text extraction, Speech synthesizer for speech synthesis, and android studio for app development, flask for API creation.

- **Cause Prediction system using patient symptoms description** *2022 - 2023*
  Tools - AWS - S3, ECS, Lambda, Lex | LSTM | Docker | HTML-CSS | Python
  – Designed a cause prediction system based on the patients' symptoms using LSTM model
  – Technologies include Docker for containerization and AWS for model deployment.

- **Explainable AI in detecting covid 19** *2022 -2023*
  Tools - Convolution Neural Networks | LIME Explainability | Python
  – Designed a CNN model for detecting Covid 19 from the lung X-rays. Explained the model predictions using an XAI framework called as LIME.
  – Led a team of 3 developers and actively participated in coding, debugging and paper writing.

- **Short Answer Grading System** *2022 - 2023*
  Tools - BERT | GPT-2 | Google USE | Embeddings | EDA | Python
  – Designed an automatic grading system which can access and grade the written answer sheets
  – Led a team of 3 and actively participated in experimentation, coding and literature survey.

- **Classification of Diabetic Retinopathy Using Image Processing Techniques** *2022 - 2023*
  Tools - Image Processing | Opencv | Python
  – Classified the retinal images as either affected by diabetes or normal.
  – Employed various pre-processing techniques that are particularly used for retinal images for extraction of features.

- **Intrusion Detection System Using Pyspark and machine Learning** *2021 - 2022*
  Tools - Hadoop | Logistic Regression | Streamlit | Pyspark
  – Analysed the packets from the edge devices and classified them into malicious or not.
  – Framed as a binary classification problems and employed various ML algorithms using py-spark
  – Created an interface using stream lit for displaying the analytics.

Publications

- **A naive approach for mutation detection using color encodings and string matching**
  In 10th FICTA 2022 (Published)
- **Comparative Analysis of Covid Detection using Chest X-rays by SVM-PCA and Deep Learning Techniques**
  In 10th ICAEIS 2022 (Published)
- **LIME Explainability on Flower Classification**
  In 6th CSITSS 2022 (Published)
- **Classification of Diabetic Retinopathy Using Image Pre-processing Techniques**
  In INOCONF 2023 (Published)
- **A Deep learning approach for prediction of binding affinity for anti malerial drugs and their target proteins**
  In INOCONF 2024 (Published)
- **Prediction of Ground Level Ozone in Bangalore Using Machine Learning Techniques**
  In 9th I2CT 2024 (Published)
- **A Context-Based Telugu Text Correction Pipeline Using MT-5 Transformer Addressing Post OCR Errors**
  In 5th WINTECHCON 2024 (Presented but not yet published)
- **A Centralized Deep Learning Framework for Converting Printed Books to Audio Books on Edge Devices**
  In 3th ICMLDE 2024 (Approved but not yet presented)
- **Unravelling stress levels in continuous speech through feature selection and DL**
  In 2nd ICMLDE 2024, published as a journal
- **Glaucoma Detection using Reinforcement Learning Algorithms**
  In 7th ISTA 2023, published as a Q2 journal

Technical Skills

- **Programming**: Python, Java, matlab, Github
- **Developer Tools**: AWS, Jupyter Notebook, Visual Studio, Docker, Ollama
- **Technologies / Frameworks**: Tensorflow, Pytorch, LLMs, Linux, Docker, Pyspark, Apache kafka, Flask
- **Experience**: Computer Networks, Statistics, Deep learning, Machine Learning, LLMs, Transfer learning

Key courses taken

- **Mathematics**: Linear Algebra, Calculus, Optimization, Markov Models, Statistical Distribution & Probability
- **Computer Networks**: Basics of Networking, Networking Protocols, OSI model, SDNs, Optimization algorithms
- **DBMS**: SQL, Relational Algebra, File organization
- **Machine Learning (3 semesters course)**: ML algorithms, Mathematics for machine learning, Deep learning, NLP, Image Processing, Speech and signal Processing

Community Involvement

- **Live In Labs [NGO]**
  Conducted by Amrita Vishwa Vidyapeetham
  – Travelled to NOIDA and explored the underdeveloped village of RUSTAMPUR and conducted a survey of the challenges faced by the villages and proposed technical and non technical solutions to the authorities.
- **Environmental Activities**
  Conducted by Amrita Vishwa Vidyapeetham
  – These are tree plantation activities conducted by prakriti club of our college.

Hobbies

- **Social Media**, Purpose - Upskilling and networking (Linkedin | Facebook | Instagram)
- **Book reading**, Self-help, Novels
- **Sports**, Chess, Badminton, Table Tennis

Achievements

- **Chess**, District level competetions, Multiple selections under top 3 players in chess
- **JEE Advanced**, MPC, Rank - 1500
- **Gate**, Data Science, AIR - 1180