Pavan Kumar Kokkiligadda

🌐 Portfolio-Page 📞 469-207-6377 ✉ pavan0417.k@gmail.com in linkedin.com/in/machaax

Education

Rutgers University-New Brunswick   **January 2024 – December 2025**
Master of Science in Computer Science   *New Brunswick, New Jersey*

Indian Institute of Technology, Kharagpur   **August 2018 – May 2023**
B.Tech & M.Tech (Hons.) in Mining Engineering   *Kharagpur, India*

Relevant Coursework

- Machine Learning
- Intro to AI
- Big Data Processing
- Database Systems
- Operating Systems
- Computer Networks
- Algorithms
- Probability and Statistics

Experience

Rutgers University-New Brunswick   **August 2024 – Present**
Research Assistant   *New Brunswick, New Jersey*

- Developed a multi-stage data analysis pipeline using PySpark to extract and identify geopolitical entities from thousands of news articles across 600+ domains, utilizing spaCy for entity recognition.
- Implemented topic modeling using BERT transformer, achieving an average topic coherence score of 0.75, indicating highly semantically consistent topics across 15+ categories.

Verzeo   **May 2022 – June 2022**
Machine Learning Intern   *Bangalore, India*

- Developed a Theft prevention system that alerts users of intrusion into their house/property using computer vision.
- The system distinguishes family members as safe and sends an email with captured images if an intruder is detected.
- Built Sentiment Analysis machine learning model using SVM and count vectorizer to classify restaurant reviews as positive or negative, achieving an accuracy of 80.2 %.

InsAnalytics   **May 2021 – August 2021**
Data Analytics Intern   *Kolkata, India*

- Implemented SEIR model (susceptible, exposed, infectious, recovered) to forecast COVID-19 cases Trends.
- Played an essential role in collecting, cleaning, preparing data for further analysis, and creating visualizations.

Projects

Secure Patient Data Management System | *Computer Networks - Class Project* **September 2024 – November 2024**

- Developed a full-stack web application enabling patients, doctors, and nurses to securely share and manage health data with role-based access control using Flask web framework.
- Implemented RSA and AES encryption to secure sensitive patient information during transmission and storage.

Vibration Analysis of HydroCyclone | *Masters Thesis Project - Python*   **January 2023 – May 2023**

- Collected time-series vibration profile data from an Industrial HydroCyclone using accelerometers and a Raspberry Pi.
- Implemented Fast Fourier Transform Algorithm(FFT) for denoising vibration signals, achieving a 6.15 dB increase in SNR, outperforming other denoising techniques.
- Discovered a positive correlation between feed inlet pressure and vibration intensity, quantified through RMS values.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, HTML, CSS, MySQL
Tools/Frameworks: Flask, ReactJS, JSP, JDBC, MongoDB/Mongoose, Git/Github
Libraries: NumPy, Pandas, scikit-learn, PySpark, spaCy, NLTK, transformers, BERTopic, Gensim, TensorFlow, Keras, OpenCV, SciPy, Matplotlib, Seaborn, Folium

Achievements

- All India Rank 4 in All India Maths Science Talent Examination 2014-2015 - Gold Medal.
- Solved 300+ problems on LeetCode ⬈ and 3-Star competitive programmer on CodeChef ⬈.
- All India Rank 429 in GATE-2022 Mining Engineering.