

Pavani Rajula



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🎓 EDUCATION

Master of Science, Data Science

University of Mannheim

Feb 2022 – Jun 2024
Mannheim, Germany

- **Coursework:** Deep Learning, Computer Vision, Reinforcement Learning, Information Retrieval and Web Search, Data Mining, Decision Support, Text Analytics, Network Science, Python for Data Scientists, Algorithmics, Blockchain and Data Security
- **Thesis:** *PIP-Net Fusion: Ensembling and Model Federation:* The thesis focuses on PIP-Net Fusion, exploring the fusion of PIP-Net models through model ensembling and federation techniques. With a focus on PIP-Net's interpretability, the goal is to improve predictive accuracy while ensuring transparency. The study delves into strategies for integrating and federating multiple PIP-Net models into a cohesive ensemble.

Bachelor of Technology, Information Technology

BVRIT Hyderabad College of Engineering for Women

Aug 2015 – Jun 2019
Hyderabad, India

- **Coursework:** Design and Analysis of Algorithms, Linux Programming, Software Engineering, Database Management Systems, Web Technologies, Big Data Analytics, Computer Networks, Java Programming, Mobile Application Development, Software Testing, Cloud Computing, Machine Learning

📄 PUBLICATIONS

Stacked Model based Argument Extraction and Stance Detection using Embedded LSTM model

Sep 2022

Proceedings of the Working Notes of CLEF 2022 - Conference and Labs of the Evaluation Forum

In this publication, proposed an innovative approach for argument extraction and stance detection utilizing a stacked model. Our methodology involves utilizing an LSTM model for determining the stance of the answer and ranking relevant documents for comparative questions based on extracted arguments.

💼 PROFESSIONAL EXPERIENCE

NeuCorelytix Solutions LLP

Data Science & AI Developer (External Consultant to Data Migration International)

Sep 2025 – Present
Remote (Hyderabad)

- Architected agentic AI systems using LLMs, RAG, tool orchestration, and autonomous workflows.
- Designed scalable AI service architectures, including microservices, asynchronous pipelines, and distributed task execution.
- Built evaluation, monitoring, and feedback frameworks to ensure reliability, reduce hallucinations, and improve system performance in production.

Data Migration International

Data Science & AI Developer

Oct 2023 – Sep 2025
Kreuzlingen,
Switzerland

- Built and deployed AI solutions using LLMs, RAG, and NLP, delivering scalable, production-ready models and end-to-end ML pipelines.
- Led AI integration initiatives, including conversational agents, GDPR-compliant personal data identification, and data quality enhancement systems.
- Optimized model performance and applied advanced AI techniques to solve real-world business challenges.

State Street Corporation

Associate 2 - Data Engineer

Jul 2019 – Feb 2022
Hyderabad, India

- Orchestrated the development and management of six regulatory reports using Axiom Controller View, supporting the entire SDLC.
- Implemented automated report execution with SQL, UNIX, and shell scripting, reducing manual workload by 40%.
- Designed Python scripts to process 20 terabytes of data in Hadoop environments, cutting processing time by 50%.
- Contributed to a Proof-of-Concept project in AWS cloud services for Axiom V10 Cloud Migration, reducing infrastructure costs by 30% compared to on-premises solutions.

Ceph Organization

May 2018 – Aug 2018
Remote

Intern - Outreachy Summer Internship Program

- Collaborated with Ceph as an Outreachy [🔗](#) 2018 participant, enhancing the CephFS [🔗](#) Shell and CLI Tool.
- Implemented Unix commands using libcephfs and Python bindings to access the Ceph File System.
- Developed the user-friendly CephFS Shell [🔗](#), improving the overall user experience and Contributed to the CephFS documentation [🔗](#), providing clear explanations of commands and their usage.

PROJECTS

Decoding Word Embeddings: Developing a Visualization Tool for Interpretability [🔗](#)

Python, HuggingFace, Word Embeddings, Natural Language Processing, Streamlit

Enhanced SensePOLAR implementation to support multiple oracles, embedded models, and additional languages, boosting interpretability across various models and languages. Developed a user-friendly interface for researchers to conduct experiments, and conducted small-scale experiments to assess model performance under different configurations.

Water Damage Detection [🔗](#)

Computer Vision, Image Segmentation

Designed and implemented a Water Damage Detection system as a participant in the Datathon2023 challenge. Leveraging the U-Net architecture, employed advanced image segmentation techniques and conducted feature engineering through transfer learning methods. This approach enabled precise identification and classification of water damage in images, showcasing a robust and effective solution.

Mobility Analytics [🔗](#)

Data Mining, Machine Learning, Predictive Modeling, Hyperparameter Tuning

Conducted exploratory data analysis and preprocessing on transportation industry data, developed and optimized a predictive model for surge pricing using machine learning algorithms such as Naive Bayes, SVM, and Random Forest.

E-Dressing [🔗](#)

Python, Flask, OpenCV, Augmented Reality

Built an augmented reality dressing room using OpenCV, enabling users to visualize how clothing items would look on them while shopping online.

Kraya - Shopping Bot [🔗](#)

Node.js, Azure, LUIS, Natural Language Processing

Developed a shopping bot utilizing Node.js and deployed on Azure cloud platform. Integrated with LUIS for natural language processing and enabled users to compare products and prices across multiple e-commerce sites.

SVES - Placement Portal [🔗](#)

MySQL, Express, Angular, NodeJS, Web Development

Created and developed a placement portal website for the Sri Vishnu Educational Society, utilizing the M*EAN stack (MongoDB, Express.js, Angular, and Node.js). This platform effectively manages various placement activities and serves as a comprehensive solution for the organization.

ACHIEVEMENTS & PARTICIPATIONS

Winners of SystAIIn3r - 100 Women in AI & Web3 for Sustainability Hackathon [🔗](#)

SystAIIn3r

Built a system to analyze a video/audio discussion, understanding each speaker's state of mind during series of events for making a decision - Audio Transcription, Speaker diarisation, Sentiment and Emotion Detection.

Winner of JIVS Hackathon - All about Data and AI [🔗](#)

Data Migration International

Implemented an innovative Geo-Masking system designed to address privacy concerns associated with image sharing and compliance with global regulations. The solution effectively prevents identifying individuals and locations from images, safeguarding sensitive information, and upholding legal standards.

One of the top competitors of STADS Datathon 2023

Students Association for Data Analytics and Statistics

Participated in HerHackathon 2023

The Hackathon Company GmbH

Created a proof of concept for the Freudenburg Challenge, designing an application that facilitates colleagues' connections while traveling on similar routes. Incorporated gamification elements to incentivize app usage, encouraging employees to share rides and utilize public transit for an environmentally friendly commute.

Open Source Summit Europe 2022 Scholarship Recipient [🔗](#)

Linux Foundation

Recognized for commitment to open-source technology and contributions to the open-source community.

KubeCon + CloudNativeCon Europe 2020 and 2022 Scholarship Recipient [↗](#)

Linux Foundation

Awarded scholarships for participation in key conferences in the cloud-native and Kubernetes ecosystem, showcasing dedication to advancing cloud technologies.

Received "Young Promising Engineer" of 2015 Batch [↗](#)

BVRIT Hyderabad










Recognized as the top-performing and graduating student of the 2015 batch for demonstrating exceptional promise and outstanding achievements in the field of engineering.

Flipkart #BcozGirlsJustWannaCode Hackathon Winner [↗](#)

Flipkart

Emerged as the winner in the intercollegiate Hackathon, representing colleges from across India. Demonstrated exceptional coding skills and a talent for creative problem-solving through the innovative "E-Dressing" project.

SKILLS

Python, Java, C <i>Numpy, Pandas, Matplotlib, Plotly</i>		ML/DL Frameworks <i>PyTorch, Tensorflow, Scikit-learn, Hugging Face, Open AI's Gym</i>	
Big Data Technologies <i>Hadoop, Spark</i>		Cloud Computing Platforms <i>AWS (S3, Lambda, IAM), Azure (Storage, LUIS, Gateway)</i>	
Databases <i>MySQL, Oracle, Hive, MongoDB</i>		Full-Stack Development <i>Spring MVC, Flask, Node JS, Android</i>	
Tools <i>Git, Axiom, Toad, VSCode, Eclipse, Android Studio</i>		MLOps & Deployment <i>Docker, FastAPI, Flask, Celery, Redis, MLflow</i>	
AI & LLMs <i>OpenAI GPT, Hugging Face Transformers, LangChain, LlamaIndex, RAG, Agentic AI</i>			

LANGUAGES

English <i>C1</i>		German <i>A1</i>	
Telugu		Hindi	

INTERESTS

Singing [↗](#) , Art & Craft, Yoga, Badminton, Movies

COMMUNITY ENGAGEMENTS & VOLUNTEERING

International Degree-Seeking Students Coach UniMannheim	2023
OpenSource Community Contributor ↗	2018 – 2024
Qualified Peer Counsellor- Jagruthi Foundation	2018 – present
Student Cultural Committe Member of BVRIT Hyderabad	2015 – 2019

CONFERENCE TALKS

- Presented the paper "Stacked Model based Argument Extraction and Stance Detection using Embedded LSTM model" at **CLEF 2022** [↗](#)
- Presented work on Ceph at **DevConf.in Bengaluru 2019** [↗](#)
- Gave a talk on Open Source for beginners at **PyConf Hyderabad 2019** [↗](#)