

Vikas Reddy

Data Analytics | Healthcare Data, Dashboards, and Intelligent Automation

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EXPERIENCE

Brain-Machine Interface Lab at UMBC

Baltimore, USA

ML Researcher, Deep Learning and Signal Processing

Jan. 2024 – Present

- Engineered a scalable AI pipeline using ConvLSTM and transformers to analyze multimodal EEG data with 97% accuracy; enabled real-time analytics for biomedical dashboards.
- Developed EmoFormer, a transformer-based classifier for emotion detection from facial signals; optimized preprocessing workflows using Scikit-learn for rapid data readiness.
- Built real-time EEG signal monitoring with Kafka-CNN pipelines for semantic retrieval (P300); improved cognitive event detection and healthcare decision support.
- Led data acquisition from 25+ EEG participants; applied signal enhancement and augmentation to ensure clean, balanced datasets for downstream analytics.

Epam Systems

Hyderabad, India

Intern, Software Development Engineer in Test

Jan. 2023 – June 2023

- Built robust test automation frameworks using design patterns, reducing deployment failures by 30% and supporting QA-driven development lifecycles.
- Created backend APIs and automation scripts in Python/Java; collaborated in Agile sprints to deploy scalable features and accelerate delivery.
- Integrated CI/CD pipelines with Jenkins, Git, and Docker; improved release efficiency by 35% through automated validation and deployment.
- Leveraged AWS (Lambda, S3, Athena) and Hadoop to design scalable data validation platforms, aligning with enterprise reporting standards.

IndicWiki Project

Hyderabad, India

Intern, Data Analyst

Mar. 2022 – June. 2022

- Designed Python-SQL pipelines to scrape, preprocess, and clean 10,000+ multilingual articles; enabled structured data input for semantic analysis and translation.
- Documented and optimized data workflows; reduced preprocessing time by 30% and improved onboarding efficiency for junior analysts by 40%.
- Used Tableau and Matplotlib for data visualization; drove a 20% improvement in translation accuracy by surfacing linguistic patterns and trends.

PROJECTS

LinkedIn Referral Automation | *Python, Selenium*

GitHub

- Created an automation tool using Python/Selenium to streamline referral outreach; reduced manual effort by 80% and improved networking efficiency.
- Designed scalable messaging workflows with dynamic templates; ensured high success rate in follow-up through smart engagement logic.

Lexically Constrained Beam Search for Machine Translation | *Python, PyTorch, Hugging Face*

GitHub

- Developed lexically guided translation using LLMs and beam search; improved output control and semantic adherence for NLP tasks.
- Trained models on WMT TR-EN dataset; achieved BLEU score improvements across 300+ test samples by aligning lexical constraints with model outputs.

TECHNICAL SKILLS

Languages: Python, Java, SQL, R, C/C++, HTML, CSS, TypeScript, JavaScript, JSON, XML

Frameworks: TensorFlow, PyTorch, Keras, Flask, FastAPI, PySpark, Hugging Face Transformers, LangChain, CrewAI

Developer Tools: Docker, Kubernetes, Jenkins, Git, AWS, VS Code, JIRA, Tableau, Power BI

Libraries: NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, OpenCV, Transformers, Selenium, TestNG

Others: Data Structures, NLP LLMs, CI/CD, Automated Testing, Design Patterns, SOLID, Agile (Scrum/Kanban)

EDUCATION

University of Maryland Baltimore County (UMBC)

Baltimore, MD

Master's in Data Science; GPA: 4.0

Aug. 2023 – May 2025

Institute of Aeronautical Engineering (IARE)

Hyderabad, India

Bachelor's of Technology in Computer Science and Engineering; GPA: 3.41

May 2019 – May 2023