Vedansh Maheshwari

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EDUCATION

UNIVERSITY OF FLORIDA — GAINESVILLE, FL, USA
Master's in Computer Science [GPA : 3.86 /4.00] — August 2023 – December 2024
- Relevant coursework : NLP, Mathematics for Intelligent Systems, Advanced Data Science, Data Engineering.

MANIPAL UNIVERSITY JAIPUR — JAIPUR, RJ, INDIA
Bachelor's of Technology in Computer Science [GPA : 3.70/4.00] — July 2019 – July 2023
- Distinguished coursework: DBMS, Advanced Data Structures, Human Computer Interaction, Computer Networks.

SKILLS

Programming Languages and Tools: Python (Numpy, Pandas, Matplotlib, Scikit-Learn, NLTK), Java, JavaScript, HTML, CSS, SQL, TensorFlow, Keras, PyTorch, MLFlow, Pony, PostgreSQL, MongoDB, Git / GitHub, Excel, Tableau, Power BI, Mendix.
Data and Machine Learning Skills: Data Modelling, Data Visualization, Deep Learning, Predictive Modeling, Computer Vision, Natural Language Processing (NLP), Large Language Models (LLMs), Prompt Engineering, Statistics, Data Analysis, Research.
Software Development and Engineering: Data Structures, Algorithms, Object-Oriented Programming (OOP), Agile Development, React, Express, Full Stack Development, Software Design Principles.
Cloud, Big Data, and DevOps: Google Cloud Platform (GCP), Data Engineering, Astronomer, Apache Airflow, DVC, MLFlow, Big Data Processing, Monitoring and Debugging (Grafana, Dagsub).
Languages: English, Hindi.

PROFESSIONAL EXPERIENCE

UNIFIED ACCESSIBILITY LLC. — PARAMUS, NJ, USA (REMOTE)
Full Stack Engineer II — January 2025 – Present
- Designed and implemented a multi-tenant RBAC system with company-scoped permissions using Django and PostgreSQL, enabling secure role-based access for 20+ clients and supporting 1000+ users with full data isolation.
- Developed a scalable SaaS backend using Django REST Framework and JWT authentication, with 50+ REST APIs and soft-delete logic across 20+ models. Built OLTP data models and ETL pipelines with Azure Data Lake for accessibility data processing.
- Created WCAG compliance scoring and risk categorization algorithms at artifact, project, and organization levels, combining severity-weighted metrics and defect analytics. Added auto-generated summaries, downloadable reports, and Power BI–ready outputs.
- Integrated LLM-based features to enhance defect descriptions and field suggestions, improving data quality and reducing manual audit effort. Supported configurable model selection and seamless integration into the audit workflow.

TRUSTWORTHY ENGINEERED AUTONOMY LAB @ UNIVERSITY OF FLORIDA. — GAINESVILLE, FL, USA
Data Scientist — August 2024 – January 2025
- Built pipelines to collect and pre-process data, train Variational Autoencoders (VAEs) to transform image data into 8-dimensional latent vectors, and reconstruct images.
- Trained deep learning models, including MLPs, to predict physical attributes (positions, angles) from latent vectors, enhancing understanding of image representations.
- Integrated LSTM models to forecast future latent states and physical states, enabling precise predictive modeling of real-world systems.

AFFEKTA LLC. — NOIDA, UP, INDIA
Data Science Intern — June 2022 – August 2022
- Developed and deployed a web application using React, Express.js, and Azure, boosting user engagement on Affekta's e-learning platform, Marvin, by 28% through gamification with skill trees and story-driven assignments using LLMs via OpenAI API.
- Implemented PostgreSQL schema and crafted APIs for CRUD operations, dynamically syncing data with the React frontend while ensuring seamless data flow and real-time AI-driven interactions.

TO THE NEW PVT. LTD. — HOUSTON, TX, USA
Software Developer/ML Engineer Intern — May 2024 – August 2024
- Employed data science libraries including Scikit-learn, Numpy, Pandas, NLTK, and TensorFlow to propel key projects, notably enhancing a sentiment analysis initiative through expert data scraping and analysis techniques.
- Collaborated with a team of 7 analysts, streamlining data workflows and knowledge sharing, reducing project turnaround time by 30%.

PROJECTS & PUBLICATIONS

NormanPD Incident Insight Visualizer(link) — April 2024 – July 2024
- Built a web platform that allows users to upload Norman PD daily incident reports in CSV, PDF, or URL formats, processes and augments data into a total of 9 fields, and visualizes the data.
- Implemented 7 visualizations analyzing trends, peak times, and high-incident areas. Users can download the augmented data in CSV format, including fields like Weather, Location Rank, and Side of Town.

Fine-tune Weak LLMs for Accurate Extraction of SDOH from EHR (link) — January 2024 – April 2024
- Fine-tuned a GPT-2 model to extract SDoH mentions from clinical records, achieving 85.56% accuracy for SDoH and 91.11% for adverse label detection, outperforming traditional approaches.
- Validated the model's superior performance on the SDoH dataset, outperforming GPT-3.5, GPT-4, and Gemma by 1.67%for SDoH label, and by 8.33% for Adverse label over the best of the state-of-the-art LLMs.

Design of Efficient Classification Model for Paramecium and Hydra (link) — June 2023 – August 2023
- Leveraged GANs to balance a Kaggle microorganism dataset, improving accuracy by 3.8%, and utilized deep learning techniques where the Inception model outperformed with a leading 96.49% accuracy.
- **Publication**: Showcased innovative results at the 3rd International Conference on 'Recent Advances in Material Science and Computational Techniques', 2023 and published in the "Proceedings of the Indian National Science Academy (PINSA)".