

Vedansh Maheshwari

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EDUCATION

UNIVERSITY OF FLORIDA

Master's in Computer Science [GPA : 3.86 / 4.00]

GAINESVILLE, FL, USA

August 2023 – December 2024(Expected)

- Relevant coursework : NLP, Mathematics for Intelligent Systems, Advanced Data Science, Data Engineering

UNIVERSITY OF FLORIDA

CISE Senior Certificate Program [GPA : 4.00 / 4.00]

GAINESVILLE, FL, USA

January 2023 – May 2023

- Distinguished coursework: Data Science, Advanced Data Structures, Human Computer Interaction

MANIPAL UNIVERSITY JAIPUR.

JAIPUR, RJ, INDIA

Bachelor of Technology in Computer Science and Engineering [GPA : 3.49 / 4.00]

August 2019 – July 2023

- Specialized in subjects: Deep Learning, Natural Language Processing, Computer Networks

SKILLS

Technical Skills: Python(Numpy, Pandas, Matplotlib, Scikit-Learn, NLTK),Java, JavaScript, Pony, Excel, HTML, CSS, SQL, PostgreSQL, MongoDB, React, Express, TensorFlow, Keras, GCP, Pytorch, Git / GitHub

Knowledge: Data Structures, Algorithms, Data engineering, Data Wrangling, Data Visualization, Machine Learning, Deep Learning, Statistics, Computer Vision, Data Analyses, Research, Natural Language Processing (NLP), Big Data, Predictive Modelling, Object-Oriented Programming, Agile Development, Prompt Engineering, Large Language Models (LLM)

Languages: English, Hindi

Extracurricular: Cricket, Chess, Art

TECHNICAL EXPERIENCE

TRUSTWORTHY ENGINEERED AUTONOMY LAB @ UNIVERSITY OF FLORIDA.

GAINESVILLE, FL, USA

MACHINE LEARNING RESEARCH ASSISTANT

June 2024 – Present

- Developed pipelines to collect and preprocess 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.
- Built LSTM models to forecast future latent states and physical states, enabling precise predictive modeling of evolving real-world systems.

AFFEKTA LLC.

HOUSTON, TX, USA

Software Developer/ML Engineer Intern

May 2024 – August 2024

- 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.
- Fine-tuned ML models for emotion detection, improving efficacy by 6%, and integrated these models into the application, enhancing data collection in real-time.

UNIVERSITY OF FLORIDA.

GAINESVILLE, FL, USA

Graduate Teaching Assistant, Software Engineering Enterprise

February 2024 – May 2024

- Spearheaded the grading process for assignments of 260 students over three semesters, leveraging Quartile-based benchmarks to drive fair grading standards and enhance student performance consistency by 10%.
- Revamped instructional materials, crafted assignment instructions, and FAQs, reducing student inquiries by 30%, and boosted course engagement and comprehension.

TO THE NEW PVT. LTD.

NOIDA, UP, INDIA

Data Science Intern

June 2022 – August 2022

- 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 in a team of 7 interns, ensuring the seamless flow of information and collaboration.

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 (PINS A)".