Deven Rahul Shah

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EDUCATION

University at Buffalo, The State University of New York,
Master of Science: Engineering Science Data Science, **Expected June 2026**
MIT-WPU, Pune, India
Bachelor of Engineering: Computer Science, CGPA – 9.01/10 **August 2024**

SKILLS & TOOLS

Languages: Python, Java, Salesforce, Django Web framework
Data Management & Analytics: MSSQL, SQLite, MongoDB, Scikit-Learn, Tableau, Machine Learning, Deep Learning
Web Development: HTML, CSS, JavaScript
Tools: Jupyter, Visual Studio, Google Colab

DATA SCIENCE PROJECTS

Vehicle Routing Problem (VRP) using Ant Colony Optimization: Python, Jupyter Notebook

- Developed a routing system for a vehicle fleet with varied capacities tailored for large-scale distributors.
- Employed optimization techniques, such as ant colony optimization, to identify the most efficient routes for the vehicles.
- Incorporated additional factors, including speed and time windows, alongside capacity considerations.
- Determined truck costs using the Clark-weights cost model, both with and without Vehicle Routing Problem (VRP) considerations.

Fake Account Detection: Python, VS code, ML Techniques

- Constructed and trained diverse machine learning algorithms to verify the authenticity of social media profiles.
- Employed preprocessing techniques, including handling missing values and scaling data, to prepare the dataset.
- Addressed text fields in the dataset through TFIDF Vectorization, achieving an accuracy of 87%, surpassing the accuracy reported in the original research paper on the same dataset.
- Published a paper at IEEE Explore: https://ieeexplore.ieee.org/document/10459570

Agriculture Drone technology: Drone parts, Mission Planner

- Granted a Design Patent (Patent No. 404133-001) for the innovative drone design.
- Assembled the drone from scratch by ordering parts online, tailoring its design to meet the specific requirements of the fogging process.
- Strategically placed foggers to maximize pesticide outflow, utilizing a camera to map the layout of the agricultural field.

Happiness Prediction Model: Python, Machine Learning, NLP

- Won the ‘Most Innovative and Outstanding Performance’ at SunHacks Hackathon 2022
- Incorporated various factors and included music as an attribute to predict a person's happiness in this model.
- Conducted sentiment analysis using Twitter tweets to identify positive and negative words.
- Predicted and analysed happiness, by using models like the Random Forest Regressor, MLP Classifier, and Logistic Regression.

WORK EXPERIENCE

Python Developer Intern, Markytics, Pune, IN: January 2024 – June 2024

- Crafted high-performance web applications utilizing the Django framework; identified areas of improvement which led to a 30% reduction in response times for data-driven functionalities within the application ecosystem.
- Restructured complex SQL statements that reduced processing latency; findings were used to address two major causes of slow database interactions, enhancing user experience during peak traffic periods.
- Collaborated closely with three team members focused on front-end development, contributing code reviews and testing feedback which led directly to improving application usability scores based on user experience metrics collected post-deployment.
- Streamlined code review processes by implementing standardized checklists, which enhanced team efficiency and resulted in an increase in the number of reviewed code submissions by 50% within six months of implementation.