

# Deven Rahul Shah

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## EDUCATION

### University at Buffalo

*Masters in Data Science*

Buffalo, NY

Aug. 2024 – Dec 2025

### MIT World Peace University

*B.Tech in Computer Science and Engineering*

Pune, IN

Nov. 2020 – July 2024

## EXPERIENCE

### Python Developer Intern

*Markytics*

Jan. 2024 – June 2024

Pune, IN

- Leveraged data analysis to identify performance bottlenecks in Django-based web applications, achieving a 30% reduction in response times.
- Restructured complex SQL statements using data-driven methods, reducing latency and optimizing user experience during peak traffic.
- Collaborated with a team of 3 front-end developers, enhancing interface usability based on post-deployment user metrics.
- Spearheaded implementation of standardized code review checklists, increasing review throughput by 50% within six months.

*Skills: Python, Django, SQL, Data Analysis, UX Optimization, Team Collaboration*

### Research Assistant – Graduate Admission Prediction

*University at Buffalo*

Mar. 2025 – Present

Buffalo, NY

- Led a solo research project under Dr. David Doermann (Chair, Dept. of CSE) to predict graduate admissions using historical applicant data.
- Performed end-to-end data processing, feature engineering with AHP scoring, and model training using Random Forest, Neural Networks, and Gradient Boosting.
- Achieved 74% accuracy through k-fold cross-validation and iterative tuning with Scikit-learn.
- Visualized feature importance and model diagnostics using Python libraries for explainability and reporting.

*Skills: Python, Scikit-learn, Pandas, AHP, Machine Learning, Random Forest, Neural Networks, Gradient Boosting, Data Preprocessing, Model Evaluation*

## PROJECTS

### Optimization for Fleet Management using Ant Colony Optimization | *Python, Jupyter Notebook*

- Developed a capacity-aware routing system for large-scale distribution fleets using Ant Colony Optimization under time and speed constraints.
- Applied Clark-weights cost model to determine optimal truck costs under VRP settings.
- Published findings in IEEE Xplore: <https://ieeexplore.ieee.org/document/10988157>

*Skills: Optimization, Python, Ant Colony Algorithm, Jupyter, Logistics Modeling*

### Fake Account Detection | *Python, Machine Learning*

- Trained multiple machine learning models to classify fake social media profiles.
- Applied TFIDF vectorization and preprocessing techniques to improve data quality.
- Achieved 87% model accuracy, outperforming benchmarks from academic literature.
- Published findings in IEEE Xplore: <https://ieeexplore.ieee.org/document/10459570>

*Skills: Python, TFIDF, Scikit-Learn, ML Classification, Research Paper Writing*

## TECHNICAL SKILLS

**Languages:** Python, Java, JavaScript, SQL, HTML, CSS, Salesforce

**Frameworks/Tools:** Django, Flask, React, Node.js, Jupyter, VS Code, Google Colab

**Databases:** MSSQL, SQLite, PostgreSQL, MongoDB

**Libraries/Other:** Scikit-learn, Pandas, NumPy, Matplotlib, TensorFlow, Machine Learning, Deep Learning, NLP, Tableau, Git, Docker