MRUNALI VIKAS PATIL

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EDUCATION

DePaul University, Chicago, IL   **September 2023 – March 2025**
Master of Science in Data Science   GPA – 4/4

University of Mumbai, India   **June 2018 – May 2021**
Bachelor of Science in Information Technology   GPA – 3.5/4

SKILLS

- **Data Analysis and Machine Learning:** Python, R, Scikit-Learn, PyTorch, TensorFlow, Data Mining, Data Analysis, Machine Learning, Regression, Classification, Clustering, Applied Statistics/Probability, Data Visualization
- **Database Management:** SQL, NoSQL, MySQL, PostgreSQL, Data Warehouses, Relational Databases
- **Programming and Web Development:** HTML, C/C++, JavaScript, Flask API
- **Advanced Techniques:** k-NN, Neural Networks, Recommendation Systems, Forecasting, Time Series Analysis, Text Analysis using Natural Language Processing
- **Cloud Platforms, Project Management and Tools:** GCP, Big Query, Advanced Excel, MATLAB, Tableau, Power BI
- **Soft Skills:** Problem Solving, Communication, Time Management, Teamwork, Adaptability

PROJECTS

Property Price Prediction   **December 2023 - December 2023**
- Developed an advanced regression model for property price prediction, achieving a high **R² value of 92%,** indicating 87.8% of variance in house prices was captured by model.
- Model demonstrated strong predictive power and accuracy in real-world dataset.
- Conceptualized and compared multiple machine learning models on a dataset of 1459 rows and 81 columns. including Linear Regression, Ridge, Lasso, and Elastic Net. Optimized model performance through hyperparameter tuning and cross-validation, assessing outcomes using MAE, MSE, and R-squared metrics.

Fashion Recommender System   **November 2023 – November 2023**
- Built a Fashion Recommender System employing a pre-trained ResNet50 model and KNN algorithm for suggesting 5 similar fashion items based on user-uploaded images.
- Engineered an interactive web interface using Stream lit, enabling users to seamlessly explore personalized fashion recommendations. With efficient data management, system accommodates a dataset of 44k images, enhancing online shopping experience through advanced image analysis and user- friendly design.

New York Police Department - Salary Data Analysis   **November 2023 – November 2023**
- Executed a detailed evaluation of NYPD officers' salaries in comparison to other NYC employees. Key findings included NYPD officers having a median salary of approximately **12%** higher than other city employees. Specifically, median NYPD salary was $75,000 compared to city median of $67,000.
- Processed and interpreted over 1 million payroll records, offering a comprehensive view of public sector pay.
- Discovered NYPD officers' overtime pay was 18% of total pay, notably more than other departments' 5%. Also, pinpointed top 10% salaries in NYPD and select city departments, indicating significant pay disparities.

Online Payments Fraud Detection with Machine Learning   **September 2023 - September 2023**
- Applied a machine learning model to detect online payment fraud with an **accuracy of 92%**, leveraging a diverse dataset from Kaggle and Python libraries for data processing and model training.
- Established data preprocessing on a large-scale dataset of more than 6 million online transactions, converting categorical data and numerical features for model training. Demonstrated strong analytical and modeling skills in a critical domain.

Next Word Prediction Model using Python   **September 2023 - September 2023**
- Created and configured a Next Word Prediction model using Python and TensorFlow, achieving a **70% accuracy** rate in predicting subsequent words within sentences.
- Utilized Comprehensive Literary Dataset: Leveraged a diverse dataset of Sherlock Holmes stories, contributing to a **20%** improvement in model's understanding of linguistic patterns and enhancing its predictive capabilities.

CERTIFICATIONS & ACHIEVEMENTS

- [Hacker Rank](#) - Certified in Python Programming, SQL (Basic, Intermediate, Advanced)   **January 2024**
- **Natural Language Processing with Disaster Tweets**, Kaggle Competition - Ranking: Top 47.97%   **December 2023**
- **House Prices Advanced Regression Techniques**, Kaggle Competition - Ranking: Top 1.85%   **October 2023**
- **NASSCOM** - Certified in National Occupation Standards for AI/Big Data Analysis   **September 2022**
- **Board Infinity** - Data Science Certificate Course   **March 2022**

VOLUNTEER EXPERIENCE

International Student & Scholar Services (ISS), DePaul University.   **January 2024**
- Collaborated in team settings to assist with new international student orientations, welcomed students at airport, demonstrated leadership by leading and facilitating Global DePaul Talk sessions, and provided mentoring through one-on-one pairing with students for city exploration and guidance in Walk and Talk Global DePaul.