

# Dhairya Patel

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## SUMMARY

- 3+ years' experience in data science and ML, specializing in model development and process optimization.
- Proficient in Python and R, with experience deploying machine learning models on cloud platforms like AWS.
- Enhances data retrieval, develops predictive models, and creates dashboards for strategic decision-making.
- Well-versed in Agile methodologies, ensuring effective collaboration and on-time delivery of data-driven solutions.

## SKILL

- **Programming Languages:** Python, R, C++, JavaScript
- **Data Science Libraries & Frameworks:** Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, Keras, TensorFlow, NLTK, PyTorch, Beautiful Soup), R (ggplot2, dplyr, tidyr)
- **Software Knowledge:** SQL, MySQL, MongoDB, Hadoop, Spark, Hive, AWS, Git, Tableau, PowerBI, JIRA, & SAS
- **ML & Statistics:** Linear Regression, Logistic Regression, Clustering, Convolutional Neural Network (CNN), A/B Testing, K-Nearest Neighbors (KNN), Support Vector Machine (SVM), Ensemble models, Natural Language Processing (NLP), Recommendation Systems, Correlation Analysis
- **Soft Skills:** Communication, Problem-Solving, Project Management, Business Acumen, Leadership & Teamwork

## EXPERIENCE

### Graduate Research Assistant | Loyola Marymount University

[Jan 2023-Jan 2025]

- Increased website performance by refactoring code and modifying search queries, reducing page load time by 37%.
- Improved data retrieval efficiency through SQL query optimization, which boosted bug fix rate and system reliability.
- Created interactive Tableau dashboards to visualize trends, increasing site visits by 30%.

### Data Science Intern | VNuture Technologies

[Jan 2022-Jun 2022]

- Developed data pipelines for ETL processes in Python for datasets up to 10 GB, utilizing Spark, Hive, & ML platforms.
- Enhanced accuracy in automatic sewing machines using data-driven method, boosting efficiency & reducing errors.
- Deployed and maintained ML models on AWS, attaining 91.38% accuracy in x-ray image classification with CNNs.
- Optimized ML models with data analysis, feature engineering, and A/B testing to enhance cross-channel performance.

## PROJECTS

### News Authenticity Analyzer

- Implemented NLP techniques using NLTK, processing 44,897 news articles to enhance feature engineering.
- Achieved 98.91% accuracy in classifying news authenticity through ensemble and traditional ML algorithms.
- Architected VeriFact: An ML-powered web application for intelligent fact validation using Flask & ML models.

### Driver Drowsiness Detection

- Attained 98.3% precision in real-time drowsiness detection using facial landmark tracking and CNN.
- Led a team to develop a user interface with webcam integration, improving software bug reporting by 55%.

### Speech Emotion Recognition

- Built a sequential model succeeding 87% accuracy in classifying emotions (happiness, sadness, anger) from audio.
- Boosted F1-score from 0.78 to 0.83 by applying multi-task learning to predict emotion and gender attributes.

### Customer Segmentation and Market Basket Analysis

- Segmented 10k customers with an RFM model and K-means clustering, validating clusters using silhouette analysis.
- Performed market basket analysis with Apriori and FP-Growth to identify customer buying patterns.

## EDUCATION

### Loyola Marymount University, Los Angeles, USA

[Jan 2023-Dec 2024]

Master of Science in Computer Science

GPA-3.76/4.0

Coursework – Agile Methodologies, ML, Data Science & Analysis, Database Systems, Deep Learning

### Gandhinagar Institute of Technology, Ahmedabad, India

[June 2018-June 2022]

Bachelor's in Computer Engineering

GPA-3.9/4.0

## CASE STUDY

### Advancing Edge Security: AI and ML Innovations for Cyber Defense

- Conducted a case study on AI-driven edge security, analyzing threat detection and privacy techniques in IoT.
- Researched machine learning integration in edge computing for AI deployment on resource-constrained devices.
- Analyzed implementation of supervised and unsupervised learning techniques for real-time threat detection.

## ACTIVITIES

- **Coursera:** Python Basic, Python Function, Files & Dictionaries, Data Collections & Processing with Python, Python Class & Inheritance, Python Data Structures. **IBM:** Machine Learning with Python, Deep Learning with Keras