Swayam Patel

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EDUCATION

Bachelor of Data Science (Major in Advanced Data Science) [December, 2025]
RMIT University, Melbourne

SKILLS

Programming Languages: Python, R, Java, SQL
Libraries: Numpy, Pandas, Flask, Scikit-Learn, TensorFlow, Keras
Software: MS Excel, Power BI, Shinyapps, Git
Cloud Distributed Frameworks: AWS, Apache Spark
Web Development: HTML, CSS, JavaScript

PROJECTS

NLP Web-based Data Application

â¢ Designed a job search website with machine learning models for job category classification
  and recommendation using Flask and Python.
â¢ Tokenized job descriptions and generated feature representations using NLTK and pandas.
â¢ Built and evaluated classification models with scikit-learn, improving accuracy by 20%.
â¢ Generated ML model to recommend job categories, enhancing user experience by 40%.

Machine Learning for Health Diagnostics and Risk Factors Analysis

â¢ Innovated machine learning models to classify health diagnostics using Python and scikit-learn.
â¢ Visualized large heart dataset and analyzed fertility trends, specifying line of best fit.
â¢ Built classification models for breast mass diagnosis, improving accuracy by 18%.
â¢ Enhanced linear regression models with regularization techniques for better prediction.

HDFS Streaming Monitor Spark

â¢ Developed real-time log monitoring system using Apache Spark Streaming and Scala.
â¢ Implemented updateStateByKey to maintain cumulative word frequency and patterns.
â¢ Reduced log processing latency by ~92% compared to traditional batch processing.
â¢ Built fault-tolerant architecture using checkpointing with 15-second recovery time.
â¢ Scaled system to process over 1.2 million log lines per hour.

Movie Recommender System

â¢ Implemented movie recommendation system using collaborative filtering with Python.
â¢ Executed user-based collaborative filtering using KNN, improving accuracy by 15%.
â¢ Enacted item-based filtering models, increasing user satisfaction by 10%.
â¢ Proposed new recommendation algorithm showing significant performance improvements.

Australian Energy Consumption Dashboard

â¢ Developed interactive web-based dashboard using R and Shiny for energy trends 2008-2021.
â¢ Performed extensive data preprocessing from multiple sources for accurate visualizations.
â¢ Created animated plots using ggplot2 and plotly, increasing engagement by 30%.
â¢ Applied dynamic filtering options, receiving 95% positive feedback from beta testers.

CERTIFICATIONS

â¢ Data Analysis and Visualization with Power BI | Coursera (Microsoft)
â¢ AWS Cloud Technical Essentials | AWS
â¢ AWS Sustainable Impact Program | AWS
â¢ AWS Academy Graduate - AWS Academy Cloud Foundations | AWS
â¢ Deloitte Australia Technology Job Simulation | Forage

VOLUNTEER

Peer Mentor | RMIT University, Melbourne
â¢ Foundation of AI for STEM
â¢ Practical Data Science
Assisted students in understanding course material and provided academic support.