

Viraj Mavani

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SYNOPSIS

AI & Data Science Professional with a Master's in CS (AI Specialization) and expertise in Python, SQL, and Machine Learning. Proven track record in developing complex data acquisition pipelines through advanced web scraping and reverse engineering. Specialized in leveraging AWS/Azure cloud services for scalable data processing and deploying automated AI solutions.

EDUCATION

WESTERN UNIVERSITY, ON, CA M.Sc. IN COMPUTER SCIENCE (AI SPECIALIZATION) GPA: 3.58/4.0	SEPT 2024 – SEPT 2025
ATMIYA UNIVERSITY, IN B.TECH. IN COMPUTER ENGINEERING GPA: 3.62/4.0	JULY 2019 – APR 2023

SKILLS AND KNOWLEDGE

Languages: Python (Primary), SQL, Java, C#, JavaScript, VBA, HTML/CSS

Data Science & AI: Machine Learning (Regression, Classification, Clustering), LLM, NLP, Deep Learning, Computer Vision

Libraries: Pandas, NumPy, Scikit-learn, TensorFlow/PyTorch, Matplotlib, Seaborn

Data Engineering: Web Scraping (Selenium, Scrapy, Beautiful Soup), ETL Pipelines, Data Mining

Cloud & Tools: AWS (Lambda), Azure, Docker, Tableau/PowerBI, CI/CD, Git, Jira

WORK EXPERIENCE

WESTERN UNIVERSITY, London, ON <i>Graduate Teaching Assistant</i>	Jan 2025 - Apr 2025
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- Mentored 200+ students in "CS2034b- Data Analytics: Principles" delivering technical tutorials on Python, Pandas, and Machine Learning.
- Facilitated hands-on labs focused on EDA, data cleaning, and statistical modeling to ensure practical competency.
- Clarified complex analytics concepts, improving academic success and overall course satisfaction scores.

DEXOC SOLUTIONS, Gujarat, India <i>Full Stack Developer</i>	Sept 2023 - Jul 2024
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- Developed 15+ high-performance scraping systems using Python, extracting millions of data points for international client analytics; utilized reverse engineering techniques to bypass anti-scraping with 99.9% uptime.
- Architected end-to-end full-stack solutions using Python, .NET Core, and AngularJS, optimizing scalability for data-intensive web applications.
- Engineered AWS Lambda functions to automate data processing and storage, significantly improving cloud infrastructure and data pipeline efficiency.
- Collaborated in an Agile environment to deliver technical specifications, focusing on system reliability and data integrity.

FSP MEDIA, Gujarat, India <i>Software Developer</i>	Mar 2023 - Aug 2023
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- Designed and developed .NET-based backend applications for diverse industries, ensuring modular architecture and timely project delivery.
- Partnered with stakeholders to translate business requirements into technical specifications and functional solutions.
- Enhanced system reliability & code quality by implementing comprehensive unit testing and rigorous debugging protocols.

PROJECTS

Tomato Leaf Disease Detection Python, TensorFlow, ResNet50, CNN, Keras

- Developed a custom CNN achieving 96.3% test accuracy for tomato diseases; optimized for resource-constrained devices.
- Applied transfer learning via ResNet50 and data augmentation to improve model generalization and reduce overfitting.

ML-Powered Taxi Fare Prediction LightGBM, Docker, XGBoost, Scikit-learn
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- Implemented an ML-based prediction system using LightGBM, achieving an R^2 score of 83.9%.
- Developed a Docker-based pipeline to automate data extraction from map images, streamlining the ingestion of travel features.

Distributed Web Scraper (MPI) Python, mpi4py, CloudScraper, Distributed Computing
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- Engineered a distributed scraper using MPI for parallelism to efficiently handle large-scale data extraction.
- Integrated modular scheduling and checkpointing to ensure high reliability and deduplication across multi-process runs.

CERTIFICATES

MACHINE LEARNING SPECIALIZATION STANFORD UNIVERSITY & DEEPLearning.AI
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- Includes: Supervised Learning, Advanced Learning Algorithms, and Unsupervised & Reinforcement Learning

GENERATIVE AI WITH LARGE LANGUAGE MODELS AWS

NEURAL NETWORKS AND DEEP LEARNING DEEPLearning.AI
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PYTHON FOR EVERYBODY SPECIALIZATION UNIVERSITY OF MICHIGAN

Web Scraping in Python Certification Udemy
