

Oscar Rodrigues

Data Scientist | ML Engineer

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Professional Summary

Data Scientist and ML Engineer with 4+ years of experience across the automotive and automation industries. Expert in building end-to-end ML pipelines, from **automated ingestion of unstructured data** to **production-grade modeling** (TensorFlow, Scikit-Learn). Proven track record of leveraging AWS and SQL to optimize data infrastructure, reducing manual workloads by over **65%** and driving executive-level decision-making.

Skills

Languages: Python (Fluent), SQL, R, MATLAB

ML/AI Tools: TensorFlow, Keras, Scikit-learn, Pandas, NumPy, OpenCV

Data Engineering: AWS (S3, Lambda, Athena), ETL Pipeline Design, Web Scraping

Visualization: Power BI, Tableau, Matplotlib, Seaborn

CI/CD & DevOps: Git, GitHub, Docker, SOP Development

Professional Experience

ADAS Operations Engineer | Stellantis

March 2022 – Present

- **Developed an ML-based anomaly detection system** using Logistic Regression to identify erratic steering behavior with **93.4% accuracy**, reducing manual engineering inspection workload by **65%**.
- **Engineered an automated data acquisition pipeline** using Python and BeautifulSoup to ingest real-time DOT construction data, cutting reactive log volume by **24%**.
- **Spearheaded the standardization of SOPs** for a 15+ person engineering team, increasing workflow adoption and ensuring cross-functional data consistency.

Junior Data Analyst | SPM Automation

March 2021 – March 2022

- **Delivered \$1.3M+ in savings** by analyzing machine sensor data to provide preventative maintenance recommendations and identify unauthorized operator adjustments, drastically reducing warranty claims.
- **Architected cloud-native ETL pipelines** using Python and SQL to automate data extraction to **AWS S3**, reducing reporting errors by **30%** and accelerating delivery cycles by **50%**.
- **Engineered a Data Warehouse solution** integrating **Tableau with AWS Athena**, enabling real-time executive monitoring and data visualization through interactive BI dashboards.

Education

Bachelor of Applied Science – Electrical Engineering | University of Windsor

Certifications

Deep Learning Specialization | DeepLearning.AI

January 2025

Machine Learning Specialization | Stanford University & DeepLearning.AI

July 2024

IBM Data Science Specialization | IBM & Coursera

September 2023

Projects

Vehicle Steering Anomaly Detection | Stellantis

Tech Stack: Python, Pandas, Matplotlib, Scikit-learn, Logistic Regression, Feature Engineering, JSON

- Normalized and processed **10,000+ JSON logs** using Pandas to enable structured high-frequency signal analysis of autonomous vehicle trajectories.
- Optimized feature engineering for steering signal data, utilizing Matplotlib for root-cause analysis and improving early-stage error detection.

Proactive Road Hazard System | Stellantis

Tech Stack: Python, BeautifulSoup, Pandas, Web Scraping, Data Cleaning, Automation

- Built a **preemptive notification pipeline** that integrated scraped road closure data to auto-disable specific ADAS features in high-risk zones, significantly reducing customer-reported disengagements.
- Developed robust data cleaning scripts in Pandas to handle unstructured HTML, ensuring **99.9% uptime** for the hazard detection system.