

DAMILARE OMOLE

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SUMMARY

Driven Data Scientist adept at translating complex data into actionable insights. Skilled in advanced machine learning, statistical modeling, and data visualization, leveraging Python, R, and SQL to deliver data-driven solutions. Excels at communicating findings to both technical and non-technical teams for maximum impact.

EDUCATION

Ph.D. in Systems Engineering

August 2019 – December 2024

Missouri University of Science and Technology

- Dissertation: “A Hybrid Data Processing, Computational Intelligence, and Complex Systems Modeling Approach for Describing and Predicting Bitcoin Markets”

TECHNICAL SKILLS

Languages: Python, R, SQL

Tech Stack: Power BI, Git, Flask, Docker, Excel, Apache Spark, MySQL, Databricks

GenAI: Hugging Face, Ollama, LangChain, Streamlit

Libraries & ML: Pandas, NumPy, Scikit-learn, TensorFlow, OpenCV, SciPy, NLTK, Feature Engineering, Time Series Forecasting, NLP, Computer Vision

Data & Analytics: Data Wrangling, Visualization, Modeling, A/B Testing, Predictive Analytics, Prescriptive Analytics, Statistical Inference, Hypothesis Testing, Monte Carlo Simulation

WORK EXPERIENCE

Graduate Research Assistant

August 2021 – December 2024

Missouri University of Science and Technology

- Built an AI agent leveraging LangChain and llama3 to enable natural language querying of MySQL databases, streamlining data retrieval and enhancing analytical workflows.
- Designed feature selection pipelines using Boruta and a Genetic Algorithm, which led to a 60% improvement in model accuracy and interpretability.
- Developed robust time-series models to predict both Bitcoin price direction (classification) and magnitude (regression), employing SVM, Decision Trees, and Random Forest.
- Engineered deep learning architectures – specifically CNN-LSTM, LSTNet, and TCN – and benchmarked their predictive power against ARIMA, achieving an 82% out-of-sample accuracy.
- Employed Docker to ensure reproducible workflows and efficient deployment and Git for version control.
- Participated in thorough code review processes, ensuring adherence to established coding standards and optimizing overall software quality.

Intern

October 2014 – March 2015

Schlumberger

- Conducted statistical quality assurance and control checks on operational processes.
- Collaborated with cross-functional teams to identify process inefficiencies and implement process improvements that yielded measurable performance enhancements.

PROJECTS

Algorithmic Trading Decision Support System – [GitHub](#)

- Designed a deep learning-based system that identified actionable trade signals, delivering back-tested annual returns of over 6,000%.
- Utilized Python, Git, GitHub, Docker, genetic algorithm and Boruta for feature selection, and CNN & LSTM hybrid architectures for prediction.

Multimodal Forecasting System – [GitHub](#)

- Created a multimodal predictive pipeline that integrated time series signals with image-based features, resulting in a 4% performance improvement over unimodal benchmarks.
- Employed Python, Git, TensorFlow, Boruta, and neural networks (CNN, LSTM).

Yelp Data Analysis

- Analyzed Yelp's publicly available dataset using SQL to identify key indicators predictive of businesses' operational status.
- Demonstrated proficiency in extracting actionable insights through structured query logic and statistical reasoning.

Product Portfolio Optimization – [GitHub](#)

- Developed a Genetic Algorithm in python to optimize product portfolios for organizations.
- Created a user-friendly web application to interact with the Python script and display results.
- Tools: Python, HTML, CSS, Flask, Git, Genetic Algorithm.

CERTIFICATIONS

- Data Wrangling, Analysis and AB Testing with SQL – University of California, Davis
- Distributed Computing with Spark SQL – University of California, Davis
- SQL for Data Science – University of California, Davis

PUBLICATIONS

- **Omole, O., & Enke, D.** (2024). "Deep Learning for Financial Price Direction Prediction: Models and Trading Strategies Empirically Compared." *Financial Innovation*, 10(1), 117.
- **Omole, O., & Enke, D.** "Using Machine and Deep Learning Models, On-Chain Data, and Technical Analysis for Predicting Price Direction and Magnitude." *In Review, Engineering Applications of Artificial Intelligence*.
- **Omole, O., & Enke, D.** "Multimodal Price Prediction Model Using Chart Images and Market Data." *In Review, Financial Innovation*.

ACHIEVEMENTS

- Featured in a press release distributed via **The Associated Press** (January 9, 2025) "[Cracking the Bitcoin Code: Predicting Price Directions and Unlocking Returns](#)," highlighted the findings of my research.