Fuad Thabet

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EDUCATION

University of Ottawa
2021 - 2026

Bachelor of Science in Computer Science, Specialization in Data Science

TECHNICAL EXPERIENCE

Founding Software Developer
Mar 2025 - Present

MoFu
Ottawa, ON

- Built a scalable **Flask-Angular** data pipeline to deliver Excel-based model outputs to an **AWS EC2 server**, enabling asynchronous front-end visualization and reducing manual data transfer time by **90%**.
- Integrated **Redis** via **Docker** on the **EC2** backend to cache Excel-parsed **JSON** payloads, achieving under **100ms** average response times and preventing redundant file I/O operations on repeated requests.
- Automated secure file transfer using **SSH** and cron-based scripts to streamline daily model result uploads, ensuring data freshness and full autonomy without paid third-party services.
- Managed feature development and infrastructure planning using **Jira** to structure sprint workflows and track deliverables, ensuring consistent task velocity and accelerating milestone delivery by **25%**.

Full-Stack Web Developer
Oct 2023 - Apr 2024

Mooruk Design Solutions
Ottawa, ON

- Built a modular CRM platform using **React** and **Node.js**, cutting down manual workflow steps by **40%** and improving internal support metrics by **25%**.
- Developed and maintained automated **CI/CD** pipelines using **GitHub Actions**, increasing codebase stability and accelerating deployment frequency.
- Implemented asynchronous **REST APIs** between client and server components to enable real-time UI updates and reduce latency.

PROJECTS

Linear Regression Model Library | *Python, NumPy, Pandas, Streamlit, Hugging Face*
Feb 2025 - April 2025

- Implemented custom Linear, Ridge, and Lasso regression models using vectorized **NumPy** operations, achieving a **380%** performance improvement in R^2 over baseline scikit-learn models.
- Implemented coordinate descent and gradient descent optimizers with vectorized operations in NumPy, reducing runtime by up to **300%** compared to loop-based methods, while ensuring convergence and numerical stability.
- Deployed an interactive Streamlit app on **Hugging Face Spaces** to visualize model performance and enable real-time comparison of regularization effects.

Housing Price Regression Model | *Python, NumPy, Pandas, Seaborn*
Feb 2025 - Mar 2025

- Developed and evaluated multiple regression models on real estate data, with simple models outperforming ElasticNet by up to **20%** in predictive accuracy.
- Engineered a modular preprocessing pipeline including categorical encoding, LOF-based outlier detection, and K-Fold cross-validation to ensure robust and reproducible model evaluation.
- Conducted statistical analysis to guide regularization decisions based on observed bias-variance tradeoffs.

Exploratory Data Analysis Portfolio | *Python, Jupyter, Pandas, Seaborn, NumPy*
Jan 2025 - Mar 2025

- Increased preprocessing speed by up to **50%** by applying vectorized transformations in place of iterative loops.
- Reduced MSE by **18%** through targeted outlier removal using Z-score and IQR techniques.
- Improved model accuracy by **12%** by implementing conditional imputation strategies for missing values based on feature correlations.

SKILLS & CERTIFICATIONS

Certifications: Supervised Machine Learning: Deep Learning, Regression and Classification
Languages: Python, JavaScript, Typescript, SQL, Java, C++, Go, HTML/CSS
Frameworks: Next.js, Angular, React, Node.js, Flask, Django, Express.js, Swift, NPM, Spring
Technologies: PostgreSQL, SQLite, Git, PyTorch, Redis, Docker, TensorFlow, Pandas, Scikit-learn, Seaborn, Firebase, Auth0
Other: Mathematics, Statistics, OOP, Data Structures, Algorithms, Databases