

Sean Fontaine

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Summary

Applied Data Scientist (MADS @ Michigan) with end-to-end ML experience and product mindset. Strengths in feature engineering, interactive applications, and LLM-based pipelines.

Experience

Independent Data Scientist · Portfolio Projects

Apr 2025 — Present

News vs. Podcasts Analysis: Multi-stage NLP pipeline with LLM integration analyzing 25K+ articles/transcripts; interactive visualizations for cross-medium comparison.

800m Performance Calculator: FastAPI + React app achieving 84% accuracy (± 1 sec) on race predictions; widely used by Hong Kong athletes.

VGC Team Recommender: Multi-label XGBoost classifier; F1-score 0.78 (23% improvement over baseline).

Enron Chatbot (LLM + RAG): Built LangChain/Streamlit system integrating email corpus and stock data for cited, conversational analysis.

CS & Mathematics Tutor · All Round Education Academy

Sep 2022 — Jul 2023

Project Guidance: Mentored IB/A-Level students through real-world Python/Java projects; emphasized problem decomposition and object-oriented programming.

Teacher | TFA Corps Member · Alliance MIT (Teach For America)

Jun 2020 — Jun 2022

Curriculum Design: Developed 10-week JavaScript curriculum for students.

Student Growth: Led data-driven instruction. Students achieved 97% pass rate on programming assessments; 193.5% average annual growth on reading.

Education

Master of Applied Data Science · University of Michigan

May 2023 — Aug 2025

M.Ed., Urban Education & Leadership · Loyola Marymount University

Sep 2021 — Jul 2022

B.A., Communication · UCLA

Sep 2016 — Jul 2020

Skills

ML: Random Forest, XGBoost, clustering, feature engineering, F1/AUC evaluation · **Programming:** Python (pandas, scikit-learn, NumPy), FastAPI, React · **NLP:** Text classification, stance detection, transformer models, prompt chaining · **Viz:** Altair, Plotly, D3.js · **Languages:** English (Native), Mandarin (Professional)