Edderic Ugaddan

Senior Machine Learning Engineer

Rumford, Rhode Island edderic@gmail.com linkedin.com/in/edderic github.com/Edderic

Machine learning engineer who reduced geospatial name-cleaning costs by **98% ($70,000 to $1,400 per run)** and took **MasqFit from idea to a production iOS app**, securing a **$50,000 research grant** and leading participant recruitment and ML development. At CDC/NIOSH NPPTL's recommendation, invited to present MasqFit as an external expert at a NASEM session on respirator-fit innovations on **November 17, 2026**.

EXPERIENCE

Dataplor · Senior Machine Learning Engineer

Oct 2024 – Oct 2026

Remote

- **Reduced global name-cleaning inference cost by 98%**, from $70,000 to $1,400 per run, by training a BERT token-labeling model to replace an API-based generative approach. KEEP/DROP labels prevent the model from inventing name tokens.
- Developed and productionized **location-hierarchy inference in PyTorch**. Developed graph neural networks to predict containment and duplicate relationships; models improved on source-provided location-parent metrics.
- **Finetuned transformers** and implemented a custom **hidden Markov model for named entity recognition** to improve location-hierarchy inference. Demonstrated that category denoising improves predictions.
- Built data pipelines with **Python, Ruby, AWS Lambda, and AWS Batch** to process global-scale datasets; collaborated with data validators on ground-truth datasets for training and evaluation across 450 million multilingual place records.
- Worked directly with **Apple, Dataplor's largest client**, to improve place-validity scoring. Built a multilingual sensitive-language cascade that handled clear cases with rules and routed ambiguous cases to an LLM, balancing precision, recall, and inference cost.

RESEARCH & CONSULTING

Breathesafe LLC · Lead Researcher & Engineer

Feb 2023 – Present

Inspired Air Fund · Contract Lead Engineer (part-time) Jan 2026 – Present

- Lead engineering for a **school dashboard** that tracks **air-quality sensor and air cleaner data**, supporting efforts to improve classroom air quality and student health outcomes.

Inspired Air Fund / Clean Air for Schools

MasqFit · Research & Engineering Lead Sep 2024 – Present

- Received a **$50,000 grant from Vitalik Buterin's Kanro Fund** to investigate whether facial scans can help people find better-fitting respirators.
- Recruited participants and collected facial measurements and fit-test data; designed methods to combine qualitative and quantitative fit evidence. Experimented with **neural networks and Bayesian logistic regression** to predict fit.
- Built and released an **open-source iOS application** that uses facial measurements and fit data to recommend respirators, taking the project from data collection and modeling to a public product.
- At the recommendation of CDC/NIOSH's NPPTL, invited to present MasqFit at a NASEM standing committee session (**November 17, 2026**), sharing implementation lessons relevant to NPPTL researchers developing facial-measurement apps for respirator selection.

MasqFit · App Store / Presentation draft

LaminAir: Designed and sold an independently tested, **open-source** personal air cleaner.

INDEPENDENT PROJECT

PlateRhythm · Creator & Engineer

Jul 2026 – Present

- Built a meal-planning and grocery-cart product that **extracts structured recipes from photographed pages and websites**, then uses embeddings and source-aware matching to find recipes and their components.
- Developed an **LLM-assisted product-selection workflow** that uses recipe context, household dietary preferences, package quantities, and store results to fill carts. Validates picks against real products, allows abstention and review, and leaves checkout to the user.

PlateRhythm

EARLIER EXPERIENCE

Panorama Education · Senior Data Scientist

Mar 2022 – May 2024

- Processed **billions of K–12 attendance records** to study chronic absenteeism and its relationship to demographics, social-emotional learning, family engagement, and staff surveys using PySpark, SQL, Pandas, EC2, and S3.
- **Co-authored** *Understanding the Link: The Correlation Between Student Mindsets and Chronic Absenteeism* (July 2024), a Panorama Education white paper. Research **mentioned on NBC News**.
- Maintained usage-metrics pipelines to help Client Experience teams assess churn risk, integrating data from multiple applications with Redshift, Postgres, Argo, and PySpark.
- Used **Naive Bayes and custom rules** to analyze counselor notes and quantify errors in college-and-career readiness flags, helping product stakeholders identify users' largest pain points.

Panorama Education · Data Scientist

Dec 2020 – Mar 2022

- Designed and implemented the first version of Panorama's **data lake**, processing gigabytes of data to support scientists and researchers analyzing approximately 10% of U.S. K–12 data.

Panorama Education · Software Engineer

Sep 2019 – Dec 2020

- Helped the research team access survey, attendance, grade, and demographic data using SQL, Ruby on Rails, and S3.

Lingo Live · Full Stack Engineer

Mar 2016 – Aug 2019

- **Accelerated the teacher–student matching algorithm 15×**, reducing runtime from 45 seconds to 3 seconds.
- Used machine learning to predict student demand; contributed full-stack engineering using Ruby on Rails.

Lingraphica · Software Developer

May 2014 – Mar 2016

- Implemented front-end and back-end features for a web application using Ruby on Rails, with additional iOS development.
- **Reduced bug cycle time from approximately 130 hours to 16 hours.**

TECHNICAL FOCUS

Models & methods: PyTorch, BERT, graph neural networks, hidden Markov models, Bayesian inference, logistic regression, scikit-learn, multilingual NLP, embeddings, retrieval, structured LLM extraction, ground-truth development, model evaluation.

Engineering & data: Python, FastAPI, TypeScript, React, Ruby on Rails, Vue.js, SQL, PySpark, Pandas, NumPy, AWS (Lambda, Batch, EC2, S3, Redshift), Postgres, Argo, Git.

EDUCATION & RECOGNITION

University of Richmond · BA, Computer Science

2009 – 2013

Arts & Sciences Summer Fellowship (2012): built a stochastic drum sequencer using Markov chains and probabilistic processes.

Udacity Machine Learning Engineer Nanodegree (2015–2016). Acknowledged in *Model-Based Machine Learning*.