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Michael Mullarkey

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Work Experience

Machine Learning Engineer II **Teamworks** **March 2025–Present**

- Slashed costs >7x on an hourly pipeline by batching database and S3 writes with guardrails for potential lost data
- Cut backfill costs for a major vendor >5.5x via improving reprocessing logic in our DAGs
- Facilitated delivery of a renewal-critical feature by improving documentation of automated Airflow DAG creation
- Reduced wait-time for a key client report from 2 hours to 3 minutes by minimizing I/O operations in a data pipeline
- Improved on-call response time to server failures >30% by creating step-by-step troubleshooting examples

Senior Data Scientist **Aiberry** **2023–2025**

- Unlocked ~30% more top-of-funnel ARR by fine-tuning custom LLMs for extracting clinical insights from screenings
- Halved our largest compute cost while sustaining accuracy by overhauling our feature engineering process in Python
- Catalyzed >$3M in new VC funding leads by driving the publication of the company's first clinical validation study
- Delivered highly requested features by leading R&D into LLMs and speeding up inference on AWS Lambda >700%
- Increased available screenings 500% by owning ML engineering from raw data to deploying models in production
- Generated >10 warm sales leads by giving talks about AI and LLMs at prominent institutions like AWS

Senior Data Scientist **The Looma Project** **2022–2023**

- Enabled real-time analytics worth >$1M in full-funnel value by putting a LightGBM ML model in production
- Created a new revenue channel for a mission-critical product by implementing computer vision models in Python
- Reduced latency in reporting performance metrics during pilots 400% by creating automated, scalable reports
- Sped up a customer-facing data API 600% by optimizing SQL calls to BigQuery
- Engaged 50% of employees on data science case study results by developing an interactive, participatory system

Principal Data Scientist **Lab for Scalable Mental Health** **2020–2022**

- Decreased user depression 19% by architecting A/B tests in a linear regression framework with multiple imputation
- Saved 20 hours of manual work per week by creating a suicidality screener for text data using boosted tree models
- Engineered end-to-end pipeline for 100% of the organization's data with a mandate to only use open-source tools

Data Scientist **Lab for Scalable Mental Health** **2019–2020**

- Reduced churn 53% in digital health products by A/B testing the tradeoffs between effectiveness and churn
- Achieved >90% sign-up rate for reproducible workflow tools after presentations at national conferences

Technologies and Languages

- Languages: Python (numpy, pandas, scikit-learn, PyTorch), R (tidyverse, ggplot2), Javascript, Rust
- Technologies: SQL, GCP, BigQuery, AWS, S3, Lambda, Sagemaker, Git, GitHub, Docker, Command line
- Analytic Techniques: Causal inference (DAGs, PSM, Double ML), A/B testing, Multilevel models, Machine learning

Education and Certifications

- **Ph.D. Clinical Psychology,** University of Texas at Austin, Austin, TX. **2014–2020**
- **B.A./M.A., Clinical Psychology,** American University, Washington, DC. **2008–2013**

Other Information

- Published >25 technical papers, cited > 4,350 times
- Co-wrote the #1 new release in the teen mental health category on Amazon (later translated to Mandarin)
- Researched and fact-checked an episode of If Books Could Kill, a top podcast according to Vulture