Sophia Scaglioni Melegari

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Bio

Data scientist with **4+ years experience using advanced causal inference and ML methods** to explore and uncover meaning from large datasets and owning pipelines at all stages of the research process. Highly comfortable working in SQL, R, and Python, and across cross-functional teams. Self-starter, fast learner, lover of statistics and data visualizations, and excellent communicator.

Experience

Massachusetts Institute of Technology (MIT)   **Jul 2024 – Present**
Altman Research Fellowship in Economics   *Cambridge, MA*
- Developed **supervised machine learning models** for **event detection in time series data** to detect promotions in career transitions (R, Python); built a recursive heuristic that predicts promotions with **98.6% F1 Score.**
- Used **causal inference and statistical modeling** techniques (2SLS, LASSO Regressions, Mediation Analyses) to study female labor force participation in a **large-scale field experiment** (RCT, similar mechanically to an **A/B test**).
- Designed and deployed **high-throughput data pipelines** (Python, DuckDB, SQL) to construct and maintain a 21M+ LinkedIn profile database for **causal inference studies** on differential career progression by demographic background.
- Scoped, designed, and launched **a large-scale field survey to 18,000** individuals using **automated emailing tools and conducted cohort analyses** on resulting responses.

OpenResearch (formerly Y Combinator Research)   **May 2023 – Jul 2024**
Quantitative Researcher and Technical Project Manager   *San Francisco, CA*
- Directly reported to Director of Strategy and Operations to **translate statistical findings into actionable insights for the board, donors, and the public** via clearly communicated deliverables (e.g., data visualizations, slide decks).
- Implemented **internal project management dashboards** to monitor and **optimize workflows** across 12+ concurrent research topics with independent research teams, and improve visibility into technical projects for Strategy & Ops teams.
- Developed **robust statistical models** (R, Python) to clean, process, and analyze data from **the most comprehensive ever U.S. RCT on unconditional cash transfers** (including biomarker, survey, and administrative data).
- Built and maintained **reproducible, scalable systems** (AWS, Python/R, Stata) for **end-to-end analyses** (including question definition, data cleaning, validation, iteration, analysis, and data visualizations).

Crowe LLP   **Jun 2021 – Aug 2021; Aug 2022 – Sept 2023**
Data Consultant (Public Sector; Financial Services)   *Sacramento, CA & New York, NY*
- Executed **data-intensive consulting** for $50B+ firms, including developing financial crimes monitoring systems and advising on **digital product compliance** (AWS, SQL, Python).
- Developed expertise in understanding rapidly changing **regulatory landscapes around emerging technologies** and presenting deliverables directly to executive-level clients in a high-stakes, fast-paced climate.

Education

Harvard University   **2024 - 2025**
Multi-variable Calculus, Linear Algebra and Differential Equations   *3.7 / 4.0*
Boston University   **2018 - 2022**
BA in Economics, BA in Political Science with Honors   *3.86/4.0 GPA, Magna Cum Laude*
Honors Thesis: American Corporate Political Activity by Revealed Preference (Awarded Best Undergraduate Thesis)

Skills

Coding: Python (e.g., pandas, numpy, scikit-learn, keras, SQLAlchemy), R (e.g., tidyverse, dplyr, RPostgresSQL), SQL

Modeling: Statistical modeling, causal inference, machine learning, A/B testing, recursive algorithms, text mining/analysis

Data Engineering: ETL pipeline development (e.g., dbt), DuckDB, AWS, Azure, PostgresSQL, high-performance computing

Visualization: Tableau, PowerBI, Looker, Javascript and CSS for Interactive Visualizations

Productionization: Pipeline deployment, data validation, version control, project management (e.g., Agile methodologies)

Languages: English (Native, US Citizen), Italian (Fluent, Italian Citizen), Spanish (Proficient)

Policy / Politics: Governor's Aide to Charlie Baker, Judicial Extern for Hnr. Michael Ryan Barrett

Personal: AIARE Avalanche I Certification, 2x Boston Marathon Qualifier/4x Marathoner

Reference

Aristia Kinis: Director of Strategy and Operations at OpenResearch; Former Manager, aristia@openresearchlab.org