Arman Karshenas, Ph.D.

New York, NY
📞 +1 (510) 809-6718
✉️ Email
🔗 LinkedIn | Google Scholar

SUMMARY

Quantitative researcher and data scientist with a Ph.D. from UC Berkeley and a background in physics, biology, and engineering from Oxford and Cambridge. Experienced in developing end-to-end pipelines for large-scale data analysis, predictive modeling, and investment decision support. Currently working on catalyst-driven return prediction and KPI-based valuation frameworks for large-cap healthcare equities across U.S. and European markets. Skilled in Python, ML, deep learning, and fundamental equity modeling.

EXPERIENCE

Freestone Grove Partners — *Quantitative Researcher, Healthcare*

Apr 2025 – Present

- Develop alternative data sources and valuation models to support long/short trading strategies in large-cap biopharma names.
- Build predictive models for catalyst-driven returns using public and clinical trial data.
- Design KPI identification pipelines across healthcare tickers and markets to extract alpha-relevant signals.
- Implement fundamental valuation models on top of KPIs for a fully data-driven capital allocation process.

Pivotal Bioventures — *Data Scientist / ML Engineer Intern*

Jan 2024 – Aug 2024

- Built ML models for investment sourcing and M&A due diligence in biotech.
- Developed scalable ETL pipelines using Airflow, Spark, and AWS.
- Integrated diverse data sources including clinical trial registries, publication databases, and drug pipelines.

University of California, Berkeley — *Ph.D. Researcher & Instructor*

Aug 2021 – Dec 2024

- Developed ML models (CNNs, transformers) for enhancer function prediction from genomic sequences.
- Taught and designed coursework for machine learning and quantitative biology.
- Published three peer-reviewed papers at the intersection of AI and gene regulation.

Education

University of California, Berkeley
Ph.D. in Physics, Minor in Data Science | GPA: 3.93
2021 – 2024

- Chancellor's & Helmholtz Fellowships

University of Cambridge
M.Phil. in Biological Sciences | First Class Honors
2020 – 2021

- Mann Studentship recipient

University of Oxford
B.A. in Electrical Engineering | First Class Honors
2017 – 2020

- Ranked 1st out of 167 students

Technical Skills

Languages: Python, R, SQL, MATLAB
ML & Analytics: Deep learning, regression models, LLMs, TensorFlow
Data & Infra: Pandas, NumPy, Airflow, Spark, AWS, Tableau, Dagster
Databases: MySQL, PostgreSQL, MongoDB

Selected Publications

- Karshenas, A. et al. *Synthetic Reconstitution and Reorganization Reveals Enhancer Flexibility and Modularity*, 2025
- Karshenas, A. et al. *Predictive Modeling of Gene Expression with Deep CNNs*, 2024
- Karshenas, A. et al. *A Deep Learning Phenotyping Method for Genetic Analysis*, 2023
- Beal, J. et al. *Robust Estimation of Bacterial Cell Count from Optical Density*, 2020