

Graham Alexander Noblit, Ph.D.

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Data scientist with five years of experience (R & Python) methodically designing and executing projects explaining real-world human behavior and analyzing multi-modal data with econometric models and machine learning

SKILLS

Languages: Python (NumPy, Scikit-learn, PyTorch, Pandas & Polars) · R · Julia · SQL

Data Science: Econometric & Statistical Inference · Causal Inference · Experimental Design · Spatial Data · Machine Learning · Reinforcement Learning · Data Processing · Data Visualization (Standard and Geospatial) · Research Design · Survey Design & Analysis · Game Theory · Git

Soft Skills: Project Management · Leading Teams · Collaboration · Presenting · Report Writing

PROFESSIONAL EXPERIENCE

Schwartz Reisman Institute for Technology and Society; Vector Inst. for Artificial Intelligence

Toronto, ON

Research Scientist

9/2022 - Present

- Devise and program game-theoretic models and simulations introducing normative-conflict and opinion aggregation to multi-agent reinforcement learning, ultimately resulting in two scientific publications
- Design survey questions & research protocol conducted in Kenya, resulting in scientific publication introducing academic discipline to study of legal order and meta-norms
- Administer weekly meetings planning research workshop and co-plan and develop themes and speakers resulting in interdisciplinary conference (100+ attendees) on artificial intelligence; mentor Ph.D. student

Research Consultant (Volunteer), Remote

8/2019 - Present

- Create agricultural and economic datasets and perform random- & fixed-effect statistical analyses for publications explaining Chinese psychological variation (**University of Chicago: Booth School of Business**)
- Devise research procedures and survey questions for data collection on fishery sustainability and behavioral change in the Brazilian Amazon (**Rare**, global nonprofit organization)
- Co-design novel reinforcement learning algorithm by providing disciplinary expertise on computational and equilibrium characteristics of normative systems (**DeepMind**, artificial intelligence research firm)

Harvard University

Cambridge, MA

Doctoral Researcher (Computational Social Science)

8/2016 - 5/2022

- Completed three multi-year data science projects (machine learning, statistical, and game-theoretic methods) identifying determinants of human behavior and institutions: identifying questions; gathering, cleaning, and processing data; coding analyses; authoring reports and data visualizations; and presenting results
- Presented findings to 5-50 people audiences incl. top international conference and interdisciplinary groups

Selected Projects

1. Statistically analyzed climatic reconstructions and agricultural and behavioral data using spatial econometric and causal inference techniques, explaining origin of social institutions in China
2. Used results of above project to analyze survey datasets using causal inference techniques, logistic regression models, and linear and non-linear PCA, explaining variation in Chinese political psychology
3. Scraped, processed, and merged multi-modal data, creating four large novel spatial and non-spatial datasets

Teaching Fellow

8/2018 - 7/2021

- Head Teaching Fellow (**Introduction to Statistics: 2019-2021**): managed teams of 5-9 teaching assistants
- Taught data-science & R: exploratory data analysis; feature engineering & selection; hypothesis testing; under- and over-fitting, model validation & selection; and interpreting & presenting results
- Led in-person and Zoom (~30 students) instruction in statistics, game theory, and artificial intelligence

EDUCATION

Harvard University, Ph.D. in Human Evolutionary Biology, Cambridge, MA

May 2022

Coursework: Statistics, Econometrics, Data Science and Machine Learning, Computational Modeling, Game Theory

University of Texas at Austin, B.A. in Anthropology, Minor in Mathematics, Austin, TX

May 2012