NICK HAND, PHD

TECHNOLOGIST
DATA SCIENTIST
EDUCATOR

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AREAS OF EXPERTISE

- The intersection of consumer protection law and technology in the financial services sector
- Tech policy with a focus on AI/ML, data privacy & surveillance, and algorithmic bias
- More than a decade of Python experience with extensive knowledge of the modern data science toolkit
- Geospatial analysis techniques and GIS software tools
- Design and data visualization including frontend web development (Javascript, Typescript, HTML, CSS, Vue)
- Advanced statistical analysis and AI/ML algorithms

OTHER SKILLS

- Analyzing and communicating complex technical information to non-technical audiences
- Designing, executing, and managing data-driven research projects and technical products
- Presenting findings to both executive and public audiences
- Managing a team of technical experts to achieve results on tight timelines

OTHER ACTIVITIES

- Mentor for inaugural Harvard Climate Justice Design Fellowship, Class of 2022
- Keepers Program, Leadership Philadelphia, Class of 2022

LATEST WORK EXPERIENCE

ENFORCEMENT TECHNOLOGIST
Consumer Financial Protection Bureau (CFPB)
September 2023 – February 2025

- Key contributor to the Enforcement Division technologist team who has developed new case investigations, provided key insights to cross-functional case teams on a range of technology topics, and identified new opportunities for improving operational efficiency.
- Identified and developed technical strategies to achieve CFPB goals related to AI & machine learning, algorithmic bias, and data security by researching, developing, and pitching new cases in those areas of priority.
- Led cross-Bureau collaborations on data security and contributed to cross-functional work products on AI/ML underwriting and data privacy policy issues.

LECTURER, MASTER OF URBAN SPATIAL ANALYTICS
Univ. of Pennsylvania
September 2019 – January 2024

- Taught the Geospatial Data Science course once per school year in the Masters of Urban Spatial Analytics (MUSA) program in the Weitzman School.
- Developed course curriculum from scratch, which included a wide range of data visualization, data science, and machine learning techniques using a Python stack with real-world case studies in the urban planning and public policy realm.

DIRECTOR OF FINANCE, POLICY, AND DATA
City Controller's Office, City of Philadelphia
February 2018 – September 2023

- Led a small team producing data-driven reports on policies impacting City of Philadelphia finances, include property tax assessments, gun violence, spending, budget, and taxes.
- Designed, developed and deployed multiple custom interactive data visualizations, including a Gun Violence Dashboard (thousands of monthly views) and the ProgressPHL neighborhood well-being dashboard.
- Used a variety of statistical and data science tools and visualization methods to communicate complex ideas to Philadelphia residents

EDUCATION HISTORY

UNIVERSITY OF CALIFORNIA, BERKELEY

PhD in Astrophysics — 2017
- Co-authored papers with thousands of citations, including 6 first-author papers (>700 citations)
- DOE Office of Science Research Fellow
- National Science Foundation Graduate Research Fellow

PRINCETON UNIVERSITY

Bachelor of Arts in Astrophysics, Certificate of Computing — 2011
- Graduated summa cum laude and elected a member of Phi Beta Kappa
- Thesis work recognized as a top 10 physics breakthrough in 2012 by Physics World