

Jacob Ford

Data scientist with experience in machine learning, geospatial analysis and policy research
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EXPERIENCE

Solstice Power Technologies

Cambridge, MA (Remote)

Data Scientist

March 2022- Present

- Serve as an in-house data science and analytics expert, offering input on how existing data can be better leveraged to meet business needs, including data dashboards and analytics to inform progress on goals.
- Manage and maintain EnergyScore machine learning model, including calibration and validation, utilizing neural network binary classification algorithm to better capture customer risk of repayment.
- Designed data pipeline to feed into custom churn prediction model using XGBoost classifier algorithm to identify customer retention challenges, using K-means to cluster customers into segments, assisting in 40% decrease in year over year churn.

Durham-Carrboro-Chapel Hill Metropolitan Planning Organization

Durham, NC

Transportation Modeler

February 2020- March 2022

- Maintain and update regional transportation model providing predicted multimodal travel volume to support local, regional, state and federal funding of highway, transit and pedestrian networks.
- Apply advanced mathematical and machine learning techniques such as iterative proportional fitting, neural networks for multimodal choice, and decision tree models to determine the number and purpose of trips.
- Analyze and synthesize model scenario outputs using R and Python to build interactive data dashboards designed to increase accessibility, engage policymakers and to inform the public of trends in travel behaviors.

North Carolina General Assembly, Program Evaluation Division

Raleigh, NC

Program Evaluator

July 2018- February 2020

- Conducted comprehensive evaluations and recommend programmatic solutions for joint committee tasked with improving the effectiveness and efficiency of state policies to better serve constituents.
- Designed scripts in R to analyze and model future performance for programs of interest.
- Identified \$3.7 million in unnecessary state spending resulting from an errant matching mechanism for hurricane relief funding, allowing for future funds to be correctly utilized, resources conserved, and victims assisted.

AnLar, LLC

Rosslyn, VA

Statistician

May 2017- May 2018

- Lead data analyst responsible for statistical models for multiple reports published by the Institute for Education Sciences (IES) to identify trends in high school dropouts, college access, and financial aid.
- Designed survey weight methodologies, including bootstrap and balanced repeated replication techniques.
- Provided technical assistance and budgetary analyses for the State Early Childhood Advisory Council of Mississippi, meeting with leading legislators and policy makers to improve outcomes for students.

Cambridge Associates

Arlington, VA

Analyst

June 2014-August 2016

- Led team of four financial analysts in financial and regulatory research for nonprofit and endowments.

SKILLS

- Expertise in Python and R
- SQL Database Management
- Geospatial Analysis
- Agile & Project Management
- Deep Learning for Classification and Regression using TensorFlow and Keras
- Statistical Modeling and Data Pipelines
- Retention and Churn Modeling
- Version Control and Git

EDUCATION

Georgetown University

McCourt School of Public Policy, Master of Public Policy

Baker Innovation Scholar: Managed \$20,000 project to decrease truancy rates for at-risk youth at Anacostia High School

Editor-in-Chief, Georgetown Public Policy Review

Research Fellow, Center for Research on Children in the United States

Washington, DC

May 2018

Allegheny College

Bachelor of Science in Mathematics, Minors in Economics and History

Meadville, PA

May 2014

PUBLICATIONS

Zahra Thani, Winslow Lewis, Liz Neyens, **Jacob Ford***, "[Priorities' Role in Community Solar: Survey-Based Study and Payment Performance Analysis](#)." Proceedings of the 52nd American Solar Energy Society National Solar Conference 2023. ASER SOLAR 2023. Springer Proceedings in Energy. Springer, Cham., August 2023.

Allison LaFave, Emily Kelly, and **Jacob Ford**, "Reasons High School Students Change Their Educational Setting", National Center for Education Statistics (NCES), series [NCES 2019-119](#), November 2018.

Allison LaFave, Emily Kelly, and **Jacob Ford**, "Factors that Influence Student College Choice", National Center for Education Statistics (NCES), series [NCES 2018-119](#), June 2018.

Laura White and **Jacob Ford**, "The U.S. Market for Defense-Related or Dual-Use Goods and Opportunities for Portuguese Small and Medium Size Enterprises: Competition and Demand" (2017), published by the Associação Empresarial de Portugal (AEP) and the Industry of Porto, funded by the European Union (EU), The European Regional Developmental Fund. March 2017.

Laura White and **Jacob Ford**, "The U.S. Market for Ornamental Stones and Opportunities for Portuguese SMEs: Competition and Demand – Volumes One and Two" (2016), published by AEP and the Industry of Porto, funded by the EU, The European Regional Developmental Fund. November 2016.

*Corresponding Author

PROFESSIONAL CONFERENCES

"Applying an Alternative Machine-Learning Qualification Metric: Impacts for Inclusion, Accuracy and Revenue". Sole Presenter at American Solar Energy Society, Boulder, Colorado, August 8-11th, 2023.

"Bringing Community Perspectives to Community Solar: Expanding Equitable Community Solar by Centering Industry and Community Priorities". Presenter with Zahra Thani at Behavior, Energy and Climate Change Conference, Washington, D.C., November 13-16th, 2022.

"Use of Social Media to Promote Your Policy Research". Moderator and Panelist with Dr. Jennifer Doleac, Dan Kaplan, and Liza Morris at the Association for Public Policy and Management, Washington, D.C., April 6-7th, 2018.