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Jacob Ford

Senior Data Scientist

Portfolio: jake-ford.github.io
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Technical Skills

Tools and Languages	Python, MLOps, Geospatial Analysis, R, Git, DataRobot, SQL
Quantitative Research	Machine Learning, Model Design and Development, Industry and Research Applications
Project Management	Agile, Technical Project Leadership, ML Product Management

Experience

SENIOR DATA SCIENTIST **January 2023 — Present**
Solstice *Cambridge, MA*

- Secured $1 million from Google to develop an ML based green financing qualification tool, EnergyScore, leading technical project management on data collection, model design and MLOps strategy.
- Developed a custom churn prediction model to segment customers into clusters of risk, leading to 39% decrease in churn for high risk customers.
- Built a document classification model using PyTorch and deployed it via AWS SageMaker, ECR, and Lambda, incorporating Docker for scalable and efficient serving of ML predictions. Achieved a 70% reduction in manual review of LMI documents, improving operational efficiency.

DATA SCIENTIST **March 2022 — January 2023**
EnergyAllies (formerly Solstice Initiative) *Cambridge, MA*

- Conducted a year long machine learning bias research in partnership with Google into EnergyScore, expanding traditionally metrics to additional protected classes like homeowners and education levels.
- Lead author on research analyzing priorities in community solar funded by DOE Solar Energy Technologies Office.
- Designed survey weighting methodology from primary data and multinomial logistic regression model to test strength of relationships.

Transportation Modeler **February 2020 — March 2022**
Durham-Carrboro-Chapel Hill Metropolitan Planning Organization Durham, NC *Durham, NC*

- Maintain transportation model predicting multimodal travel volume for analysis of highway, transit, and pedestrian networks.
- Apply advanced techniques like iterative proportional fitting, neural networks, and decision trees to determine trip numbers and purposes.

Program Evaluator **July 2018 — February 2020**
North Carolina General Assembly, *Raleigh, NC*

- Conducted state policy evaluations and recommend programmatic solutions within legislative in-house watchdog agency.
- Identified $3.7 million in unnecessary state spending resulting from an errant matching mechanism for hurricane relief funding.

Education

Master of Public Policy , *Georgetown University* May 2018
Editor-in-chief, Georgetown Public Policy Review; Baker Innovation Scholar; Research Fellow, CROCUS
Bachelor of Science in Mathematics, *Allegheny College* May 2014

Publications

- Zoie T. Diana, Madeleine Milne, Jacob Ford, Ron Rubinovitz, Andrew Turner, Chelsea M. Rochman, “A Paint Library Of Plastic Particles (PLOPP): Fourier transform infrared spectral analysis of paint microplastics” In preparation for Analytical Chemistry.
- Jacob Ford*, “Fairness in Focus: Insights into Bias Within Machine Learning Risk Evaluations and Established Credit Models” (Revisions, Under Review). Management System Engineering. August 2024.
- 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. ASES 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.

Note
*Corresponding Author