Brandon P. **Pipher**

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Experience

United States Census Bureau
Suitland, MD

Supervisory Mathematical Statistician (GS-1529-13) / Data Scientist — *Jul 2021 - Present*

- Conducted research and methodology design for the 2030 Census Coverage Estimation program. Lead data-driven projects within the Decennial Statistical Studies Division that applied statistical and machine learning techniques to evaluate and improve the quality of the decennial census.
- Developed tract-level person and living-quarters population estimates for coverage estimation by leveraging administrative records; designed and implemented anomaly-detection and quality control frameworks; applied graph-theoretic models leveraging household structures to improve estimation accuracy.
- Advanced intercensal population estimation through the Continuous Count Study by integrating Census, commercial, and government-wide datasets. Applied log-linear and latent class modeling for characteristic imputation when implementing multiple-systems estimation. Presented findings at the 2024 Joint Statistical Meetings and the 2024 Federal Committee on Statistical Methodology.
- Provided statistical programming for the 2020 Post-Enumeration Survey (PES). Developed the in-mover probability imputation model using large-scale feature selection techniques to identify key covariates for estimation.

Nations Lending Corporation
Independence, OH

Quantitative Modeling and Research Analyst — *Sep 2020 - Jul 2021*

- Partnered with Risk Management, Compliance, and Product teams to create automated reports and dashboards, providing insights on KPIs and OKRs using statistical modeling and data science techniques.
- Delivered high-impact analytical summaries to senior leadership, developing flexible reporting solutions to drive strategic decision-making and monitor performance indicators.
- Designed time series forecasting models leveraging public data to predict quarterly mortgage loan origination volume, optimizing workforce allocation and reducing operational costs.
- Applied Natural Language Processing to analyze mortgage process documentation, uncovering bottlenecks and reducing closing times through machine learning-based workflow improvements.

Education

Kent State University
Kent, OH

Master of Science in Applied Mathematics — *Aug 2017 - Dec 2019*

- GPA: 3.9
- Thesis on regression methods with non-convex penalties and modeling with high-dimensional data.

University of Akron
Akron, OH

Bachelor of Science in Mathematics, Minor in Statistics — *Aug 2013 - May 2017*

- GPA: 3.6
- Graduated *cum laude*

Skills

Programming	Python (Scikit-Learn, PyTorch, Tensorflow), R, SAS, SQL (Redshift, PostgreSQL, MS SQL Server), Bash
Machine Learning	Regression, Classification, Natural Language Processing, Clustering, Deep Learning
Statistical Methods	Generalized Linear, Bayesian & Hierarchical Models, Hypothesis Testing & Multiple Comparisons
Networks & Graph Theory	Community Detection, Path & Connectivity Algorithms, Graph Matching
Time Series & Forecasts	ARIMA, ETS, SARIMA, Exponential Smoothing, Dynamic Regression, Seasonal Adjustments
Data Visualization	Dash, Shiny, PowerBI, Tableau, Quarto, Geopandas, Plotly, Seaborn, ggplot2
Tech Stack	VS Code, Git, AWS (S3, EC2, EMR, SageMaker), Spark, Dask