Brandon P. **Pipher**

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Experience

United States Census Bureau
Suitland, MD

Supervisory Mathematical Statistician (GS-1529-13)
July 2021 - Present

- Led innovative data-driven projects employing advanced statistical and machine learning methodologies for the Decennial Directorate's (ADDC) Decennial Statistical Studies Division's (DSSD) Sampling Branch.
- Engaged in research and development of the methodology for the 2030 Post-Enumeration Survey (PES). Enhanced and refined coverage estimation techniques by integrating administrative records with Census data products, utilizing data-driven approaches and advanced statistical models to improve accuracy and efficiency.
- Conducted pioneering research under the Continuous Count Study, improving population estimates for intercensal years by leveraging Census products, third-party commercial datasets, and administrative records from all levels of government through record linkage methodologies. Utilized state-of-the-art statistical learning techniques, including Log-Linear and Latent-Class modeling. Presented recent findings at the 2024 Joint Statistical Meetings and 2024 Federal Committee on Statistical Methodology.
- Designed and implemented statistical programming and data analytics for the 2020 Post-Enumeration Survey (PES). Executed advanced feature selection techniques and developed the Inmover probability imputation model, enhancing the precision and reliability of coverage estimation for the 2020 Census.

Nations Lending Corporation
Independence, OH

Quantitative Modeling and Research Analyst
Sept. 2020 - July 2021

- Collaborated with Risk Management, Compliance, and Product teams to create automated reporting, dashboards, and generate analytic insights on Key Performance Indicators (KPIs) and monitor Objectives and Key Results (OKRs). Utilized advanced data science methodologies and statistical models to enable stakeholders with data-driven decision-making capabilities designed to optimize business efficiency.
- Synthesized findings into high-level insights for presentation to senior management and stakeholders. Developed customized and agile reporting solutions to enhance data-driven decision-making and monitor critical performance indicators.
- Developed and implemented time series forecasting models utilizing publicly available data to predict quarterly mortgage loan origination volume. Optimized workforce allocation and minimized operational costs by accurately forecasting mortgage volume, enabling efficient resource management.
- Applied Natural Language Processing (NLP) to extract novel insights into the mortgage life cycle, enhancing operational efficiency and reducing closing times through advanced machine learning techniques.

Education

Kent State University
Kent, OH

Master of Science in Applied Mathematics
Aug. 2017 - Dec. 2019

- GPA: 3.9
- Thesis: Comparison of Regression Methods with Non-Convex Penalties

University of Akron
Akron, OH

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

- GPA: 3.6
- Graduated *cum laude*
- Member of Phi Sigma Alpha: Buchtel College of Arts and Sciences Scholastic Honorary Society
- Member and Treasurer (2016-2017) of Pi Mu Epsilon: Mathematics Honorary Society (Ohio Nu Chapter)

Skills

Programming Python, SAS, R, LaTeX, SQL, DAX, Power Query M, Regex, Tidyverse, Scikit-Learn, NumPy, Pandas, Shiny, Plotly, NLTK, Seaborn, Matplotlib, Bash, Dask, Geopandas

Tools PowerBI, Tableau, JMP, Minitab, PostgreSQL, Microsoft SQL Server, AWS Sagemaker, Jupyter Notebook, Git, GoodData, Power Query, Visual Studio Code, Apache Spark, AWS S3, AWS EC2

Professional Development

U.S Census Bureau — *Suitland, MD*

Data Science Training Program - Machine Learning Track — *Jun. 2024*

- Participant in the Statistical Product First Capstone Project. Developed methods to deliver statistical products to meet the complex and diverse needs of stakeholders. Created simple, public-use products that empowered users of all technical levels to efficiently access and utilize government data.
- Analyzed historical grants.gov awards, stakeholder personas, interviews, and data from the Common Crawl to identify and predict stakeholder needs. Applied Natural Language Processing techniques to determine data domains and match them with appropriate data products. Ensured stakeholders could efficiently access the necessary information through a streamlined process, which included generating tailored insights and visualizations.

American Statistical Association (ASA) - Kentucky Chapter — *Lexington, KY*

Analysis of Big Healthcare Databases - Short Course taught by Rebecca Hubbard — *Oct. 2020*

- Explored the design and analysis of research studies utilizing large Electronic Health Records (EHR) databases.
- Addressed the challenges posed by unstructured, complex, and incomplete data. Applied advanced data science methodologies to develop effective solutions for overcoming these challenges.

American Statistical Association (ASA) - Kentucky Chapter — *Lexington, KY*

Successful Data Mining in Practice - Short Course taught by Richard De Veaux — *Oct. 2018*

- Practical, hands-on demonstration of using statistical engineering to address ”Big Data” challenges in industry.
- Focused on case studies derived from decades of consulting experience, showcasing effective data mining techniques at scale.
- Emphasized the crucial role of the analyst’s domain knowledge and the relevance and practicality of the data for achieving successful results, rather than relying solely on powerful algorithms applied to large datasets.