Max Bahar (he/him)

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SUMMARY

- Data science graduate student at Harvard with 3 years of professional experience in geospatial data analytics; passionate about transforming complex data into actionable insights in dynamic environments.
- Proven ability to design and deploy data-driven solutions in Python, specializing in machine learning and data visualization, demonstrated through rigorous graduate coursework and projects.

EDUCATION

Harvard University Expected: May 2026
M.S. Data Science
Relevant Coursework: Advanced Topics in Data Science, Machine Learning, Visualization, Mathematical Modeling

Boston College May 2021
B.A. Economics and Computer Science
Relevant Coursework: Algorithms, Computability and Computational Complexity, Econometric Methods

TECHNICAL SKILLS

Programming and Tools: Python (Pandas, NumPy, SciPy, Scikit-learn, Keras), Tableau, Maptitude, D3.js

PROFESSIONAL EXPERIENCE

Caliper Corporation July 2021 - June 2024
Analyst, Maptitude Mapping Software
- Created ad-hoc business intelligence reports and geospatial dashboards in Maptitude, analyzing performance indicators (KPIs) for Fortune 500 clients in real estate, banking, and retail to uncover market trends and inform strategic decisions.
- Automated geospatial data preparation and processing of FFIEC banking compliance datasets (11M+ records) using Python and GISDK, improving data quality and streamlining regulatory analysis.
- Analyzed Albertsons and Kroger store locations to evaluate the economic impact of their merger, leveraging Maptitude for spatial and demographic trend analysis; findings were published in a blog post recognized by the Financial Times.
- Manipulated, geocoded, and analyzed voter records and election results to support redistricting efforts, structuring data to enable creation of compact, population-balanced districts that enhanced electoral fairness and demographic compliance.
- Developed and led geospatial analysis training programs for 100+ corporate and government clients, translating complex spatial data concepts into actionable insights and driving adoption of analytics tools.

Boston College Economics Department June 2020 - May 2021
Research Assistant to Professor Paul Cichello
- Applied statistical methods to analyze time series COVID-19 data using Stata, highlighting the long-term effects of small growth rate variations on pandemic outcomes and enhancing public understanding of exponential growth dynamics.
- Produced data visualizations and authored five blog posts, effectively translating complex statistical concepts into accessible insights that informed policymakers and public health decisions during the COVID-19 pandemic.

RELEVANT PROJECTS

Harvard University Data Science I and Visualization Project September 2024 - December 2024
Voter Turnout and Demographics in Massachusetts
- Built a machine learning pipeline in Python, incorporating feature selection with LASSO regression and permutation importance, hyperparameter tuning of a random forest model, and interpretability analysis using Shapley values.
- Developed ETL workflows to clean, process, and integrate Massachusetts voter data with Census geographic data, aggregating to the block group level, imputing missing values, and standardizing demographic predictors for analysis.
- Created an interactive data visualization website with D3.js, presenting dynamic maps, bar charts, histograms, and density plots to help stakeholders explore voter demographics, turnout trends, and machine learning model insights.

Boston College Economics Senior Thesis August 2020 - May 2021
Long Term Effects of Parental Migration on Indonesian Income
- Implemented an instrumental variable regression model in Stata, using five waves of longitudinal data to estimate the causal effects of parental migration on future income, identifying a higher prevalence of non-labor migration.
- Engineered features by integrating parental migration histories with children's socioeconomic and community-level data from the Indonesia Family Life Survey, enabling causal analysis of long-term income effects.

COMMUNITY INVOLVEMENT

Harvard Graduate Advisory Committee September 2024 - Present
Committee Member
- Organized monthly events to foster interdisciplinary collaboration among graduate students in Harvard's Data Science and Computational Science & Engineering programs, strengthening academic networks and peer support.