

# John Bentley

Trained data scientist with a pure math background and 7 years of coding experience, 3 years of which were machine-learning focused. Mission-driven team-player who is enthusiastic about driving impact by combining modern tools with a deep understanding of industry issues.

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📍 NYC

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🐙 mathSlug.github.io

## EDUCATION

### Data Scientist Certification, currently Teaching Assistant

#### NYC Data Science Academy

New York, NY

09/2018 – present

- Constructed explanatory models using ARIMA techniques and spectral analysis. Verified effectiveness of crime reduction initiative affecting city of 130,000.
- Built ensemble model using KNN, Lasso, and Gradient Boosting to predict home sale prices. Achieved .126 root mean-squared prediction error.
- Created R Shiny webapp to model data on extra-solar planets, including Flash visualization of orbital paths.
- Scraped data from popular project-hosting hub using Python and analyzed success factors using correlation analysis and regression.

### B.A. with Distinction: Mathematics and Philosophy

#### Yale University

GPA: 3.65 (Major 3.82)

New Haven, CT

08/2013 – 05/2017

- Data Mining and Machine Learning
- Introduction to Computer Science
- Computability and Logic
- Multivariable Calculus
- Intermediate Microeconomics
- Political Philosophy
- Linear Algebra
- Complex Analysis
- Group Theory

## WORK EXPERIENCE

### Financial Analyst

#### Brownson, Rehms & Foxworth

Menlo Park, CA

07/2017 – 12/2018

- Employed modern portfolio theory to fit investment recommendations to client needs. Chief analyst responsible for re-derivation of practice-wide fixed-income targets due to shifts in corporate bond market. Reduced credit risk exposure by an average of 50% on \$3 billion in advised-upon assets.
- Built tools using SQL database of portfolio returns, R, Excel, and VBA. Cut time for one critical report from over an hour per deliverable to five minutes.
- Assisted in management of \$2 billion in client portfolios as senior analyst to team of two analysts and one support professional.
- Planned meetings & addressed questions. Primary contact for certain clients.

### Flight Analyst Intern

#### NASA Goddard Space Flight Center

Greenbelt, MD

05/2016 – 01/2017

- Researched and customized cutting-edge algorithms for magnetometer calibration that remain in use.
- Processed terabytes of magnetometer time-series data using PCA and regression techniques to find magnetic waves.
- Determined statistical significance of unexpected readings from onboard sensors. Findings helped save thousands by discouraging further experimentation.
- First author: Bentley J, Chu D, Loto'aniu P, Redmon R, Rich F, Sheppard D. Exploring the use of Alfvén waves in magnetometer calibration at Geosynchronous orbit. American Geophysical Union. 2016.

### Research Assistant

#### Yale Department of Political Science

New Haven, CT

06/2014 – 10/2014

- Estimated economic cost of power-shifts associated with nuclear-weapons acquisition.
- Researcher credit: Debs A, Monteiro N. Nuclear Politics: The Strategic Causes of Proliferation. Cambridge University Press. 2016.

## SKILLS

- Machine Learning: Generalized Linear Regression, Trees, Ensembles, PCA, SVMs, Cluster Analysis, Neural Networks, Time-Series Analysis
- Programming: Python (7 years), R (2 years), SQL (1 year), MATLAB (3 years), Java (7 years)
- Data Engineering: Spark, AWS, Hadoop
- Analysis: Statistics, Financial Modeling, Signal Processing, Economic and Political Research
- Communications: Client-Relations, Team-Coordination, Presentation
- Project Management: Staging, Resource-Management
- Leadership: Eagle Scout, Yale Freshman Counselor
- Music: Banjo, Guitar