

# MATTHEW KAYE

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🔗 mrkaye97

## EXPERIENCE

### Data Scientist

#### CollegeVine

📅 Sept 2020 – Present

📍 Cambridge, MA

- First member of the CollegeVine data science team. Responsible for establishing data science workflow best practices, building out a modeling pipeline, and providing easy-to-use data science tools to other members of the team
- Created a school recommender system using collaborative filtering to allow us to intelligently recommend new colleges to our users
- Clustered users with a modified K-Prototypes algorithm to allow for missing values in the distance calculation
- Advised on CollegeVine survey conducting and analyzed results for use in published reports on college admissions
- Serving as a subject matter expert for everyday statistics- and data science-related questions

### Baseball Operations Fellow

#### Baltimore Orioles

📅 Mar 2020 – Sept 2020

📍 Baltimore, MD

- Created a fully Bayesian, simulation-based projection system for MLB player performance over a six year time horizon
- Modeled free agent salaries with a gamma hurdle regression framework
- Implemented a robust-to-multimodality version of the Metropolis-Hastings algorithm to determine the optimal way to position our defense against a specific hitter
- Worked on a variety of day-to-day data science tasks related to game strategy and player evaluation

### Research Intern

#### Federal Reserve Bank of St. Louis

📅 June 2019 – Aug 2019

📍 St. Louis, MO

- Prepared new data series from the BLS, IMF, and more for upload to FRED, using pandas for data wrangling
- Fit neural network and multinomial naïve Bayes models to apply correct descriptive tags to FRED series to improve search performance

### Econometrics Teaching Assistant

#### Carleton College Department of Economics

📅 Mar 2019 – June 2019

📍 Northfield, MN

- Ran semiweekly sessions to help econometrics students master course material, improve their R and  $\text{\LaTeX}$  skills, and hone their statistical intuitions
- Helped students complete homework assignments and projects and prepare for exams
- Graded homework assignments

## SKILLS

### Languages:

Haskell Java Python R SQL

### Frameworks, Software, and Tools:

AWS brms caret  
Docker Excel Git  
Heroku Numpy Pandas  
R Shiny Scikit-Learn Tidyverse

### Data Science:

Bayesian Modeling and Inference  
Data Wrangling Data Visualization  
Machine Learning Statistical Inference  
Time Series Modeling

## LANGUAGES

Spanish ● ● ● ● ●

Swedish ● ● ● ● ●

## EDUCATION

### B.A. Economics and Mathematics

#### Carleton College

📅 Sept 2016 – Nov 2019

Economics Thesis: *The Effect of Transit on Life Satisfaction: A Multilevel Modeling Exploration of Urban Happiness*

Mathematics Capstone: *Dynamic Linear Models and the Kalman Filter*

#### Choate Rosemary Hall

📅 Sept 2013 – June 2016

## INTERESTS

Baseball Browsing r/AskReddit  
Cooking Running Minimalism  
Skiing Data Visualization  
Fantasy Novels Solo Travel  
Nature & Architecture Photography