

# BRENDAN COOLEY

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## PROFESSIONAL EXPERIENCE

- 2020- present Senior Data Scientist, Big League Advance, Washington, DC
- Write and estimate models to predict the outcome of baseball games and evaluate minor league baseball players
  - Develop and maintain software for dataset generation, model tuning and evaluation, and data visualization
- 2014-2015 Research Assistant, Center for Strategic and Budgetary Assessments, Washington, DC
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## EDUCATION

- 2020 Princeton University, M.A. (2017), Ph.D. (2020), Politics
- **Qualifying exams:** international relations, formal and quantitative methods, political economy
  - **Selected coursework:** statistical learning, causal inference, optimization, game theory, microeconomic theory, international economics, industrial organization
- 2014 University of North Carolina at Chapel Hill, B.A.
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## SOFTWARE

python numpy, scipy, scikit-learn, tensorflow, keras, numpyro, altair  
R tidyverse, spatial (sp, rgdal, leaflet), plotly, shiny, Rmarkdown  
SQL  
Stan  
Mathematica (computer algebra)  
IPOPT (sparse, large-scale, nonlinear optimization)

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## RESEARCH

### Publication

- 2015 [A Conventional Flexible Response Strategy for the Western Pacific](#)  
with James Scouras

### Working Papers

1. [Estimating Policy Barriers to Trade](#)
  2. [Trade Policy in the Shadow of Power: Quantifying Military Coercion in the International System](#)
  3. [Gunboat Diplomacy: Political Bias, Trade Policy, and War](#)
  4. [Gunshots and Turf Wars: Inferring Gang Territories from Shooting Reports](#)  
with Noam Reich
  5. [How Wide Is the Ethnic Border?](#)  
with Scott F Abramson and Bethany Lacina
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## TEACHING

### [Introduction to Mathematics for Political Scientists](#)

Summer 2018, Summer 2019

**Other:** International Relations (Teaching Assistant), International Intervention and the Use of Force (Teaching Assistant), International Relations Theory and the Rise of China

**Competencies:** Applied statistics, data science, game theory, international relations, international political economy