

# João Moreira

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## education

- Ph.D.** Chemical Engineering, Northwestern University 2012–2017  
Thesis: *The Effect of Gender Diversity in Creative Teams*
- M.Sc.** Physics, University of Lisbon, Portugal 2009–2011  
Thesis: *Evolutionary Dynamics of Cooperation in Multiplayer Games*
- B.Sc.** Physics, University of Lisbon, Portugal 2006–2009

## skills

- Data analysis** Machine learning, time-series analysis, maximum likelihood, bootstrapping, Monte Carlo methods, map-reduce
- Programming** Python (including numpy, scipy, pandas, scikit-learn, requests), R, BASH, C++, git
- Databases** MySQL, MongoDB
- Web design** HTML, CSS, Javascript, D3.js
- Languages** Portuguese (native), English (fluent)

## experience

### Data Scientist & Instructor

- Northwestern University Jan. 2012–Sep. 2017
- Used maximum likelihood estimation to parameterize the distribution of the impact of scientific publications (~1TB dataset)
  - Constructed a Django web application with interactive D3.js visualizations to showcase my data-driven ranking of scientific research: <http://forecite.us>
  - Demonstrated the existence of historical gender discrimination in the movie industry by performing time-series analysis on IMDb metadata of +15k movies
  - Created and delivered original course materials on web-scraping and object-oriented programming to over 100 students in 2 sessions of a 1-week long Python programming bootcamp
  - Organized and led discussion groups, and graded homeworks for all students in 4 undergraduate courses
  - Mentored 2 younger graduate students and 2 high-school interns on the principles of scientific research and basics of programming

### Data Science Intern

- GadflyZone Apr. 2016–Sep. 2016
- Constructed MySQL database of patents on Amazon Database Relational Services built from publicly available patent information
  - Used natural language processing and citation analysis to design a multidimensional scoring engine to predict a company's innovativeness

### Software Engineer

- Narrative Science Jun. 2014–Sep. 2014
- Developed Python tools to automatically gather and perform statistical analysis of stories written by Quill, Narrative Science's patented artificial intelligence platform
  - Used Quill to collect the most relevant metrics from the stories' analysis and to generate an email report that produced insight about the inner workings of the platform