

# João Moreira

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## skills education

### modeling

Machine learning  
Time-series analysis  
Maximum likelihood  
Sampling methods  
MCMC  
Hypothesis testing  
Map-reduce

2011–Present **Ph.D.** Chemical Engr. *Northwestern University, Evanston IL*  
Expected graduation: Aug 2017

2009–2011 **M.Sc.** Physics *Universidade de Lisboa, Lisbon, Portugal*  
Specialization: Statistical and Non-Linear Physics  
Thesis: *Evolutionary Dynamics of Cooperation in Multiplayer Games*

2006–2009 **B.Sc.** Physics *Universidade de Lisboa, Lisbon, Portugal*

## experience

### development

Python | 5+ yrs  
bash | 5+ yrs  
git | 4+ yrs  
C++ | 2+ yrs  
R | 6 mos

### tools

Django  
numpy  
scipy  
pandas  
scikit-learn  
matplotlib  
requests  
Beautiful Soup

### databases

MySQL | 5+ yrs  
MongoDB | 4+ yrs

### web design

HTML5  
CSS3  
Less & Sass  
Javascript  
D3

2011–Present **Northwestern University** *Evanston, IL*  
Data Scientist

- Used maximum likelihood estimation to parameterize the distribution of the impact of scientific publications (~1TB dataset)
- Created a Django web application to showcase my research: <http://forecite.us>
- Performed time-series analysis on IMDb metadata of +15k movies

#### Instructor

- Developed course materials and was an instructor for 'Introduction to Python Programming and Data Science Bootcamp'
- TA for Process Control, Quantum Mechanics, Mass Transfer
- Mentored 2 younger graduate students and 2 high-school interns

2016 | 6 mos **GadflyZone** *Vernon Hills, IL*  
Data Science Intern

- 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

2014 | 4 mos **Narrative Science** *Chicago, IL*  
Software Engineer

- 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

## dissemination

Oral presentations **Presented research at 9 international conferences**

Publications **Published 6 research papers**

Peer review **Reviewed for PLoS One, PLoS Biology, and New Journal of Physics**

Blog posts **[jagmoreira.com/archives](http://jagmoreira.com/archives)**

Languages **Portuguese (native) | English (fluent)**