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## EDUCATION

**University of Iowa**, Iowa City, Iowa  
Ph.D of Pure Mathematics (In Progress)  
Master of Science in Mathematics

May 2016  
Dec 2014

**University of Northern Iowa**, Cedar Falls, Iowa  
Master of Arts in Mathematics

Jul 2010

**University of Puerto Rico, Rio Piedras Campus**, San Juan, Puerto Rico  
Bachelor in Mathematics

May 2009

## SKILLS

- Strong Python and SQL Programmer. Strong HTML5/CSS3 and Bootstrap3 Developer.
- Experience with: Machine Learning, Natural Language Processing, Web Scraping, Github, Pandas, NumPy/SciPy, Bokeh, Flask, Heroku, JSON, Analytics, Probability/Statistics, Twitter API,  $\LaTeX$ .
- Basic Knowledge of: R, Spark, Hadoop, MapReduce, C++, JavaScript, D3.
- Dominance of English and Spanish.

## EXPERIENCE

**The Data Incubator**, Washington, D.C.

Fellow

Jan 2016–Feb 2016

Certificate in Data Science

**Capstone Project:** <http://iokilos.herokuapp.com>

- Analyzed the distribution of world records in Olympic Weightlifting using the Naive Bayes Classifier from Scikit-Learn. Also developed an app for strength athletes' training cycles using Clustering Algorithms. The data was scraped from over a thousand pages from various websites.

**Other projects:**

- Conducted open-ended analysis of user behaviors on 9+GB of StackOverflow XML data (AWS s3) using Scala, and Spark.
- Analyzed 10+GB of XML data from Simple English and Thai Wikipedia (AWS s3), with MapReduce.
- Web scraping and social graph analysis of more than 100,000 photo captions from NYC Social website using Python (Networkx, BeautifulSoup, and Pandas).
- Developed Time Series model for weather data (AWS s3) to predict temperature.
- Developed different pipelines for predicting star reviews for businesses based on small Yelp academic dataset with Python (Scikit-Learn).
- Analyzed New York food inspection reports for the last 4 years, approximately 530,000 records, using advanced SQL and Python (Pandas).
- Performed Natural Language Processing analysis to Yelp's academic dataset, 325+MB of json data, with Python (NLTK and Scikit-Learn).

**Topology Research**, University of Iowa

Graduate Research Student

Aug 2012 – Dec 2015

Professor Charles Frohman

- Developed a method for reducing certain exponential time algorithms in Quantum Topology to linear time.

**Biostatistics And Bioinformatics Center**, University of Puerto Rico, Rio Piedras Campus

Undergraduate Research Student

Aug 2008 – Jul 2009

Professor Luis Raul Pericchi

- Modeled and Analyzed more than 500MB of data from breast cancer studies in search of biomarkers, with R.

## SELECTED

**The Localized Skein Algebra Is Frobenius**

## PUBLICATIONS

N. Abdiel and C. Frohman, in *Journal of Knot Theory And Its Ramifications*

Jan 2016.

## &amp; AWARDS

**Ballard-Seashore Fellowship**, University of Iowa.

Jan 2016 – May 2016

Awarded for outstanding contributions to the field of Topological Quantum Field Theory.