# Nelson Abdiel Colón Vargas (Nel Abdiel) Data Scientist

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## EDUCATION

**University of Iowa**, Iowa City, Iowa
Ph.D of Pure Mathematics (In Progress) — May 2016
Master of Science in Mathematics — 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

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

**Selected Projects**:

- **Big data related**: Conducted open-ended analysis of user behaviors on 9+GB of StackOverFlow XML data using Scala, and Spark. Analyzed 10+GB of XML data from Simple English and Thai Wikipedia 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 pipelines with Python (Scikit-Learn) for predicting star reviews for businesses based on Yelp's academic dataset. Performed Natural Language Processing analysis on Yelp's academic dataset, 325+MB of json data, with Python (NLTK and Scikit-Learn).
- Analyzed New York food inspection reports for the last 4 years, approximately 530,000 records, using advanced SQL and Python (Pandas).

**Topology Research**, University of Iowa
Graduate Research Student — Aug 2012 – Dec 2015
Professor Charles Frohman
• Developed a method for reducing exponential time of Skein computations in Quantum Topology to linear time.

**University of Puerto Rico, University of Northern Iowa, Florida State University, University of Iowa.**
Instructor and/or Teaching Assistant — Jun 2004 – Dec 2015
Taught and/or TAed for a wide range of college courses, from Precalculus to graduate courses in Topology. Been in charge of classes with more than a hundred students.

## SELECTED PUBLICATIONS & AWARDS

**The Localized Skein Algebra Is Frobenius**
N. Abdiel and C. Frohman, in *Journal of Knot Theory And Its Ramifications* — Jan 2016.

**Ballard-Seashore Fellowship**, University of Iowa. — Jan 2016 – May 2016
Awarded for outstanding contributions to the field of Topological Quantum Field Theory.