Nelson Abdiel Colón Vargas (Nel Abdiel) Data Scientist

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EDUCATION

University of Iowa, Iowa City, Iowa
Ph.D. in Mathematics — May 2016
M.S. in Mathematics — Dec 2014

University of Northern Iowa, Cedar Falls, Iowa
M.A. in Mathematics — Jul 2010

University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico
B.S. in Mathematics — May 2009

CERTIFICATE

The Data Incubator, Washington, D.C.
Certificate in Data Science — Feb 2016
Fellow. *Selected among the less than* 4% *of +1900 applicants.*

SKILLS

- **Stack**: Python, Hadoop, Cassandra, HAWQ, Greenplum.
- **Knowledge of**: Machine Learning, Natural Language Processing, Data Visualization, Web Scraping.
- **Tools**: Git, Pandas, NumPy/SciPy, Scikit-Learn, NLTK, Flask/Django, Bokeh, D3.js, HTML5/CSS3.
- **Familiar with**: SQLite3, MongoDB, CockroachDB, MapReduce, R, Spark, Scala, Go, JavaScript.
- **Dominance of**: English and Spanish.

EXPERIENCE

Soteria - Security Consulting & Data Analytics, Charleston, S.C.
Data Scientist - Python Developer (Short Term Contract) — Jun 2016–Present

- Created Python software for extraction and classification of features from unstructured data from $+30000$ websites a day. Both structured and unstructured data is then automatically saved into a Cassandra database.
- Devised Python pipeline to automate the scoring of $+30000$ websites received per day.
- Developed predictive model using a Gradient Boosting Classifier to automate the detection of cyber threats with a 98% accuracy.
- Built a web application for internal use using Python, Flask, Django HTML5/CSS3, and D3.js that allows users to interact with the data in a more visual matter.

The Data Incubator, Washington, D.C.
Fellow — Jan 2016–Feb 2016
Capstone Project: http://iokilos.herokuapp.com

- Scraped over a thousand pages from various websites to collect data. Analyzed the distribution of world records in Olympic Weightlifting using the Naive Bayes Classifier. Developed an app for strength athletes' training cycles using Clustering Algorithms.

Selected Projects:

- Conducted open-ended analysis of user behaviors on +9GB of StackOverFlow data using Scala and Spark.
- Performed Natural Language Processing analysis on Yelp's academic dataset, +325MB of json data.

Mathematics Department, University of Iowa.
Instructor and/or Teaching Assistant — Aug 2011 – Dec 2015
- Taught a wide range of college courses (ranging from 25 to +100 students), from Precalculus to graduate courses in Topology.

SELECTED PUBLICATIONS & AWARDS

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

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