Nelson Abdiel Colón Vargas, Ph.D. (Nel Abdiel)

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EDUCATION

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

University of Iowa, Iowa City, Iowa
Ph.D. in Mathematics   2016
M.Sc. in Mathematics   2014

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

University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico
B.Sc. in Mathematics   2009

EXPERIENCE

Soteria - Security Consulting & Data Analytics, Charleston, S.C.
Data Scientist   Jun 2016–Present

- Develop predictive models to detect Phishing emails and websites based on content and attributes using Python Packages such as Scikit-Learn, NLTK and Pandas.
- Build algorithms to detect large scale Phishing campaigns with the use of Clustering techniques and Natural Language Processing.
- Concoct machine learning classifiers from Scikit-Learn to detect and correctly identify different phishing techniques such as Typosquatting, Spoofing, Whaling and Spear Phishing among others.
- Create ranking system algorithms to prioritize human revision of current threats.
- Develop text classification models to assess risk of brand infringement with the use of Python packages like NLTK and WordNinja.
- Write MapReduce jobs to detect patterns in daily and historical domain name registrations.
- Use statistical analysis on usability data to better understand and enhance user engagement and user story.
- Design auto generated, data-oriented marketing material for social media with the use of Python, LaTeXand the Twitter API.
- Design and develop auto generated, data-driven monthly report template with detailed analysis of performance and usage of products.
- Contribute to the analysis and writing in forensic investigation reports.
- Ameliorate solutions by redesigning ETL and data analytics to function as a Linux service.

K2 Data Science, Remote
Data Science Curriculum Advisor - Contract   Dec 2016–Jul 2017

- Designed and developed assignments with detailed solutions for the the following subjects: Data Cleaning and Preprocessing, Exploratory Data Analysis, Regression, Classification.
- Helped plan and develop comprehensive learning material to aid students with assignments and prepare them for their future roles as Data Scientists.

PUBLICATIONS

The Localized Skein Algebra is Frobenius   May 2017
N. Abdiel and C. Frohman, *Algebraic and Geometric Topology*, Accepted (in production queue).

Frobenius Algebras Derived From The Kauffman Bracket Skein Algebra   Jan 2016
N. Abdiel and C. Frohman, *Journal of Knot Theory And Its Ramifications*, Volume 25, Issue 04, April 2016.

SKILLS

- *Stack*: Python, PostgreSQL, Spark, Hadoop, Bash, D3.js, Jupyter, Zeppelin, Ambari, Git, LaTeX, Go.
- *Knowledge of*: Machine Learning, Data Visualization, Object-Oriented Programming, Neural Nets.
- *Tools*: Pandas, NumPy/SciPy, Scikit-Learn/XGBoost, Keras, Theano, Bokeh, Flask, HTML5/CSS3.
- *Familiar with*: MapReduce, Cassandra, HAWQ, SQLite3, CockroachDB, MongoDB, R, C++, OSSEC.
- *Dominance of*: English and Spanish.