

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

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EXPERIENCE     **Microsoft**, Redmond, WA / Humacao, P.R.  
Data & Applied Scientist II - Anti Piracy Services     Feb 2018–Present

**Soteria - Security Consulting & Data Analytics**, Charleston, S.C.  
Data Scientist

Jun 2016–Jan 2018

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

CONSULTING     **Loop Market Intelligence**, Charleston, S.C.  
EXPERIENCE     Data & Analytics Development Consultant     Jan 2018–Present

- Design and build predictive model for the platform's recommendation system using language processing and sentiment analysis.
- Help design and build data storage and pipelines to handle ETL.

**K2 Data Science**, New York City, N.Y.  
Data Science Curriculum Consultant

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 developed comprehensive learning material to aid students with assignments and prepare them for their future roles as Data Scientists.

EDUCATION     **The Data Incubator**, Washington, D.C.  
Certificate in Data Science     2016

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

2016  
2014

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

2009

PUBLICATIONS     **The Localized Skein Algebra is Frobenius**     Oct 2017

N. Abdiel and C. Frohman, *Algebraic and Geometric Topology*, Volume 17, Issue 6.

**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 4.