

8510 16th Street, Apt. 308,  
Silver Spring, Maryland  
20910, USA

+1 (787) 550-8328  
[nel.abdiel@gmail.com](mailto:nel.abdiel@gmail.com)  
<http://www.nelabdiel.com>

EDUCATION	<p><b>University of Iowa</b>, Iowa City, Iowa Ph.D. of Pure Mathematics (In Progress) May 2016 Master of Science in Mathematics Dec 2014</p> <p><b>University of Northern Iowa</b>, Cedar Falls, Iowa Master of Arts in Mathematics Jul 2010</p> <p><b>University of Puerto Rico, Rio Piedras Campus</b>, San Juan, Puerto Rico Bachelor in Mathematics May 2009</p>
SKILLS	<ul style="list-style-type: none"> <li>• <b>Expertise:</b> Mathematical/Statistical Analysis, Data Visualization.</li> <li>• <b>Proficient with:</b> Python, SQL, HTML5/CSS3, <math>\text{\LaTeX}</math>.</li> <li>• <b>Experience with:</b> Machine Learning, Natural Language Processing, Web Scraping.</li> <li>• <b>Tools:</b> Github, Pandas, NumPy/SciPy, Scikit-Learn, NLTK, Bokeh, Flask/Django, Heroku, D3.</li> <li>• <b>Familiar with:</b> R, Spark, Scala, Hadoop, MapReduce, C++, JavaScript.</li> <li>• <b>Dominance of:</b> English and Spanish.</li> </ul>
EXPERIENCE	<p><b>The Data Incubator</b>, Washington, D.C. Fellow. <i>Selected among the less than 4% of +1900 applicants.</i> Jan 2016–Feb 2016 Certificate in Data Science <b>Capstone Project:</b> <a href="http://iokilos.herokuapp.com">http://iokilos.herokuapp.com</a></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p><b>Selected Projects:</b></p> <ul style="list-style-type: none"> <li>• Conducted open-ended analysis of user behaviors on +9GB of StackOverflow data using Scala and Spark.</li> <li>• Performed Natural Language Processing analysis on Yelp's academic dataset, +325MB of json data.</li> </ul> <p><b>Topology Research</b>, University of Iowa Researcher, <i>Ph.D. thesis</i> Aug 2012 – Dec 2015</p> <ul style="list-style-type: none"> <li>• Optimized Skein computation algorithms, reducing them from exponential to linear time.</li> </ul> <p><b>University of Puerto Rico, University of Northern Iowa, University of Iowa.</b> Instructor and/or Teaching Assistant Jun 2004 – Dec 2015</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>
INDEPENDENT PROJECTS	<p><b>ConcertiPy!</b>, <a href="http://concertipy.herokuapp.com">http://concertipy.herokuapp.com</a> Created a web application that uses both the Spotify and BandsInTown API to find events nearby of those artists you follow.</p> <p><b>Olympic Weightlifting, A Sport Of Numbers.</b> Optimized the Sinclair formula used in Olympic Weightlifting, using Python and Pandas.</p> <p><b>Starting Pitchers Get Pulled After 2 BB</b>, Kaggle Question Analyzed pitching data from 1871-2015 to determined when is the right time to pull a pitcher.</p> <p><b>Raspberry Pi/Python Twitterbot</b> Programmed a Raspberry Pi to tweet on its own using Python and the Twitter API.</p>
SELECTED PUBLICATIONS & AWARDS	<p><b>The Localized Skein Algebra Is Frobenius</b> N. Abdiel and C. Frohman, in <i>Journal of Knot Theory And Its Ramifications</i> Jan 2016.</p> <p><b>Ballard-Seashore Fellowship</b>, University of Iowa. Jan 2016 – May 2016 Awarded for outstanding contributions to the field of Topological Quantum Field Theory.</p>