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| **Jonathan D. Groth, PhD** |

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**Summary**

* Data Scientist with 12 years’ experience creating solutions with data analysis. With expertise in experimental design, predictive analytics, time series forecasting, and natural language processing
* Excellent communication skills with the ability to present complex ideas to experts and novices. Developed during my 2 years teaching, 5 years teacher’s assistant, 10 conference presentations, 4 peer reviewed publications.
* Strong understanding statistical, machine learning, and AI techniques; developing analysis for A/B testing, classification, scoring, segmentation, time series analysis, forecasting, document clustering, document classification, key word extraction, topic modeling, and document similarity.
* Excellent strategic problem-solving and analytical skills developing solutions in experimental design, communication of findings, computational and analytical methods, and data visualization.
* A passion for working in a team; learning from diverse backgrounds and cooperatively creating new ideas.

**Recent Projects**

Document job search (NLP):

The aim of this project was to redesign the way the user searches for a job. Instead of title search I matched jobs based on resume search using doc2vec and document similarity.

* Scraped Glassdoor.com for job listings using python’s splinter
* Used word2vec and doc2vec representations clustering and classification to determine the most similar job postings to input resume, CV, or LinkedIn profile.
* Plan to add ensemble method for document similarity and sentiment analysis using deep learning for skills ranking.

Time series forecasting:

The aim of this project was to forecast the price of commodity coffee over a 1-year period.

* Modeled the price using L1 regularized regression and ARIMA with weather and market metrics as predictors.
* Found that the price and predictors were highly seasonal so modeled forecast of predictors using weighted seasonality.
* Found with ideal data found an average error of $7.62 for a price on the order of $200.

**Experience**

**Data Analyst / Research Scientist** – Melior Discovery 08/17 – 10/17

* Took in client’s needs and requests developed solutions; creating research protocols and methods that met the high demands of clients
* Developed algorithms and software for the analysis of data. Resulting in new analysis procedures that enable new experimental paradigms to be brought to market.
* Developed new experimental models to be used in new marketable pharmaceutical testing models.
* Performed feature selection and feature engineering extracting more robust predictors for analysis.

**Instructor** - New Jersey Institute of Technology 09/15 - 05/16

* Designed course curriculum and created lectures and lab courses that introduced complex topics of engineering methods, computational analysis of systems, biomedical engineering concepts, neuroscience, and electrophysiology. Resulting in an increased understanding of students and improved grades.
* Developed different strategies for delivering information to students of widely varying backgrounds and ability to understand the information.
* Problem solved student’s lab activities in programing and electronic design then guided them in developing solutions.
* Managed 25 to 32 students in an instrumentation lab course directing students in how to design, prototype, and validate the instrumentation and troubleshoot problems.

**Graduate Researcher** – New Jersey Institute of Technology09/08 - 05/15

* Developed and programmed Machine learning systems for brain computer interfaces using both primary motor cortex and cerebellar signals to forecast arm movements.
* helped develop strategic communication schemes to better present information and methods of projects. Designing presentations, posters, scientific papers, conference abstracts, and grant applications that consolidated the array of research and marketed the lab to diverse groups.
* Worked with Team members to improve experimental design and increase integration between different experiments being done on the project.
* Developed data analysis techniques for the analysis of electrophysiological time series signals.

**Education**

**Data Science Bootcamp** - Rutgers University. 11/18

**PhD biomedical engineering** - New Jersey Institute of Technology 05/15

**MS Biomedical engineering** - New Jersey Institute of Technology 05/08

**BS Biomedical engineering** - Louisiana Tech University 02/05

**Technical Experience**

**Programing Languages**: Python, Matlab, some JavaScript, and R **|** **SQL Platforms**: PostgresSQL, MySQL, and SQLite **|** **NoSQL Platforms**: MongoDB **|** **Markup Languages**: HTML, CSS, and Markdown **|** **Shell Languages**: Bash **|** **Version Control**: Git **|** **Data Wrangling and Data Analysis**: Numpy, Pandas, Matplotlib, Plotly, D3.js, Scipy, Scikit-Learn, NLTK, Gensim, SpaCy, Tensorflow, and Keras **| Webscraping**: Splinter, Scrapy