

Lewis N. Sears IV

DATA SCIENCE · MATHEMATICS

New York City

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Education

Wake Forest University

Winston-Salem, NC

MASTER OF ARTS IN MATHEMATICS

Sep. 2016-May 2018

- Intensive coursework in applied mathematics, pure mathematics, and statistics
- Fully funded fellowship as a graduate teaching assistant

Concentration: Mathematical Optimization, Multivariate Statistics, Differential Topology

Washington and Lee University

Lexington, VA

BACHELOR OF ARTS WITH HONORS IN MATHEMATICS, MUSIC MINOR

Sep. 2012-May 2016

- Pi Mu Epsilon, honorary national mathematics society
- NCAA Division III Lacrosse Team
- Concert Pianist

Honors Thesis: *Realizability of n -Vertex Graphs with Prescribed Vertex and Edge Connectivity and Minimum and Maximum Degree*

Experience

Metis

New York, NY

DATA SCIENTIST

Sep. 2020-Present

Full-time data science training program covering topics such as programming, machine learning, statistical modeling, data visualization, and communication. Projects include:

Chess Engine: Developed a robust chess bot using minimax algorithms with alpha-beta pruning techniques.

In a second iteration, trained a convolutional neural network from scratch on 20,000 games from *Chess.org*.

Tools: Tensorflow, modeling and layer design using Keras, and dynamic recursive algorithms

Twitter Analysis: Leveraged natural language processing to analyze polarizing tweets leading up to the 2020 presidential election. Developed topic models, cluster analysis, and word2vec word associations on time stamped tweets.

Tools: NLTK and spaCy for text preprocessing, tf-idf vectorization, LDA topic-modeling, PCA dimension reduction, clustering algorithms (K-means, DB-scan, mixture models), and gensim word2vec/doc2vec

Wine Classification: Created a supervised classifier using key words and phrases from 100k wine reviews to predict the region of a wine. The model performed with 95% accuracy on unseen wine reviews.

Supervised Algorithms: KNN, logistic regression, naive bayes, decision trees, random forest, SVM, and XGBoost

Wake Forest University

Winston-Salem, NC

GRADUATE TEACHING ASSISTANT

Sep. 2016-May 2018

- Prepared weekly lectures, conducted office hours, and graded all material
- Full semester curriculum in calculus, statistical models, and probability courses

Mathematical Science Research Institute

Berkeley, CA

GRADUATE RESEARCH FELLOWSHIP

June 2016-July 2016

- Explored models and applications of modern electronic structure theory
- Presented on Hamiltonian Operators at UC Berkeley

Washington and Lee University

Lexington, VA

RESEARCH ASSISTANT

May 2015-May 2016

- Created algorithms to realize graphs with desired parameters
- Results published October 2016 in *Congressus Numerantium*, Vol. 227

University Math Center

Lexington, VA

TEACHING ASSISTANT

Sep. 2014-May 2016

Technical Skills

Languages/Tools: Python, R, MATLAB, LaTeX, HTML, SQL, Tableau

Libraries: Pandas, NumPy, Matplotlib, Scikit-Learn, NLTK, spaCy, BeautifulSoup, XGBoost, Keras, Dask, Spark

Data Science: Supervised and Unsupervised Algorithms, Natural Language Processing, Web Scraping, Neural Networks