

EXPERIENCE

Metis New York, NY
Data Scientist Mar. 2020 to June 2020

Completed an immersive 12-week accredited data science bootcamp with a focus on developing skills in Python, machine learning, statistical modeling, and data communication. Developed hands-on, practical experience by completing five full-cycle projects from idea inception, data acquisition, and exploratory analysis to implementing machine learning algorithms, visualizing, and presenting results. See project section.

City University of New York New York, NY
Research Assistant June 2017 to May 2020

Conducted research and published articles on algorithmic group theory and model theory. Coded (in Python) the first implementation of the Magnus Breakdown algorithm.

City University of New York New York, NY
Adjunct Lecturer Jan. 2014 to Dec. 2019

Taught statistics, algebra, precalculus, calculus, and combinatorics courses to cohorts of 35 students per semester.

PROJECTS

Who Should Play The Next James Bond

- Built a linear regression model to predict box-office earnings.
- Scraped and cleaned movie and actor data from IMDB and the-numbers.com.
- Engineered features to capture the impact of seasonality and cast on movie revenue.

A Recommendation System to #Decolonize Your Bookshelf

- Created a recommendation system for Goodreads subscribers that recommends books written by authors of color
- Used PySpark's Alternating Least Squares algorithm to predict users' book ratings
- Scraped and cleaned Goodreads book summaries and list of POC authors
- Performed topic modeling on summaries to classify book content and genre

Magnus Breakdown Algorithm Implementation

- Implemented the Magnus Breakdown algorithm in Python
- It is used to decompose one-relator groups into amalgamated products and HNN-extensions of free groups.

Which Stand-Up Comedian Should You Watch Tonight?

- Built a recommendation system and a quiz that recommends a stand-up comedian
- Performed topic modeling using non-negative matrix factorization (NMF) and latent Dirichlet allocation (LDA)
- Generated features through topic modeling to classify comedians based on the content of their stand-up routines

PUBLICATIONS

Bi-interpretability of some monoids with arithmetic and applications 2017
Co-authored with Olga Kharlampovich, Ph.D; Published in Semigroup Forum, Springer US, 2019

Equations in metabelian Baumslag-Solitar Groups 2018
Co-authored with Olga Kharlampovich, Ph.D, and Alexei Miasnikov, Ph.D; Published in Mathematics of Computation, 2020

SKILLS

LANGUAGES

Python
Matlab

PYTHON LIBRARIES

Pandas
Numpy
Scikit-learn
NLTK
SpaCy
CorEx
Matplotlib
Seaborn
BeautifulSoup
PySpark
Dimensionality Reduction

DATABASES

SQL/postgresql
MongoDB

MACHINE LEARNING

Regression models
Classification Models
Clustering algorithms
Natural Language Processing
SVA

PURE MATHEMATICS

algorithmic group theory
first-order logic
model theory

EDUCATION

CUNY Graduate Center
Ph.D Pure Mathematics 2020
GPA: 3.88

CUNY Hunter College
M.A Pure Mathematics 2015
GPA: 3.9

University of Puerto Rico-
Mayaguez
B.S. Mathematics 2013
Graduated Magna Cum Laude

AWARDS

Universidad de Puerto Rico-
Mayagüez
Karl Friedrich Gauss Award
May 2013
Awarded to the best student in the
mathematics department.