Hanna Hamilton

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Education

Georgia Institute of Technology — *Atlanta, GA*

M.S. in Computational Data Analytics — *December 2020*

- GPA: 3.8

University of Wisconsin-Madison — *Madison, WI*

B.S. in Industrial Engineering — *December 2018*

- GPA: 3.4

Skills

Programming JavaScript, MATLAB, Python, R, SQL

Techniques Network Analysis, Optimization, Statistical Analysis, Supervised and Unsupervised Learning, Variable Selection

Visualization D3.js, Excel, Matplotlib, MiniTab, Seaborn, Tableau

Experience

Replate — *Remote*

Data Scientist — *January 2021 - August 2022*

- Leveraged optimization and cross-functional collaboration to co-develop a matching algorithm which effectively determines food donor/recipient pairs and assigns drivers based on location, availability, and preference data
- Performed a cost analysis and presented insights to leadership and various departments to inform pricing strategy
- Supported a data science intern with implementing Tableau as Replate's data visualization tool and building dashboards
- Extracted data from various sources and assessed data quality to design and deliver monthly reports and fulfill ad hoc data requests
- Built the codebase for Replate's data department to automate calculations for KPIs and common data requests

Georgia Institute of Technology — *Remote*

Graduate Teaching Assistant — *August 2020 - August 2021*

- Led weekly office hours, created assignments and exams, graded exams, and answered questions on the online discussion board for Regression Analysis, a graduate course in the H. Milton Stewart School of Industrial and Systems Engineering

NCR — *Remote*

Analytics Practicum Project Consultant — *August 2020 - November 2020*

- Worked with classmates to improve and automate merchant operations for NCR with machine learning models
- Implemented a similarity-based multi-step model to automatically classify product catalog entries across merchants into a consistent set of groupings
- Implemented the apriori algorithm and a graph convolutional network algorithm to identify meaningful relationships between products

Academic Projects

Network Analysis for Return to Campus Decisions — *Remote*

Georgia Institute of Technology — *May 2020 - May 2021*

- Worked with ISyE professors and other students to analyze various hybrid instructional mode strategies during the COVID-19 pandemic
- Compared the strategies from both health and academic perspectives, by their effects on various groups of students, and based on the trade-off between health risk and academic burden

Predicting Airbnb Prices and Quality in New York City — *Remote*

Georgia Institute of Technology — *March 2020 - April 2020*

- Worked with classmates to build models which predict Airbnb prices and quality in New York City
- Used random forest regression and logistic regression to build the models

Analysis of Small Odd-Set Constraints in Maximum Weight Matching — *Remote*

Georgia Institute of Technology — *March 2020 - April 2020*

- Implemented an optimization model for the maximum weight matching problem
- Solved the linear relaxation and explored the probability of obtaining an optimal integer solution for various numbers of vertices
- Added small odd-set constraints to increase the probability of obtaining an optimal integer solution
- Explored and compared various approaches for reducing the computation time

Predicting H-1B Visa Application Outcomes — *Remote*

Georgia Institute of Technology — *February 2020 - April 2020*

- Worked with classmates to build an ensemble model which predicts the outcome of an H-1B visa application
- Combined logistic regression, support vector machines, and k-nearest neighbors to build the ensemble model

Multi-Period Blend Scheduling Optimization — *Madison, WI*

University of Wisconsin-Madison — *February 2018 - December 2018*

- Researched various formulations for the multi-period blend scheduling optimization problem
- Applied decomposition methods and found smaller optimality gaps than traditional solvers for mixed-integer nonlinear problems