Hanna Hamilton

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Experience

Replate *Remote*

Data Scientist *January 2021 - September 2022*

- Co-developed a matching algorithm which effectively determines food donor/recipient pairs and assigns drivers based on location, availability, and preference data for any given day and city
- Informed pricing strategy by presenting insights from a cost analysis to C-level executives and various departments
- Implemented Tableau as Replate's data visualization tool while managing a data science intern
- Designed and delivered monthly reports for 3 departments and fulfilled ad hoc data requests by extracting data from 5+ sources, assessing data quality, and building dashboards
- Automated calculations for KPIs and common data requests by building the codebase for Replate's data department

Georgia Institute of Technology *Remote*

Graduate Teaching Assistant *August 2020 - August 2021*

- Supported a class of 350+ students as an assistant teacher for Regression Analysis, a graduate course in the H. Milton Stewart School of Industrial and Systems Engineering
- Led weekly office hours, created assignments and exams, graded exams, and answered questions on the online discussion board

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
- Classified product catalog entries across merchants into a consistent set of groupings by implementing a similarity-based multi-step model
- Identified meaningful relationships between products by implementing the apriori algorithm and a graph convolutional network algorithm

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

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

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
- Increased the probability of obtaining an optimal integer solution by adding small odd-set constraints
- 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