

# Hanna Hamilton

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## Experience

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### Deloitte

Remote

CONSULTANT

March 2023 - Present

- Automating several reporting processes by creating scripts, verifying automated reports, scheduling recurring data refreshes, and coordinating with the DevOps team
- Creating Tableau dashboards and fulfilling ad hoc data requests

### Replate

Remote

DATA SCIENTIST

January 2021 - September 2022

- 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
- 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

### 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

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**Programming** Python, SQL, R, JavaScript, MATLAB

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

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

## Education

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### 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

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### Network Analysis for Return to Campus Decisions

Remote

GEORGIA INSTITUTE OF TECHNOLOGY

May 2020 - May 2021

- Informed Georgia Tech's return to campus decisions during the COVID-19 pandemic by analyzing student connections through courses with ISyE professors and other students
- Developed network connectivity and in-person instruction metrics to evaluate various hybrid instructional mode strategies from health and academic perspectives
- Compared these strategies in terms of network connectivity, in-person instruction, their impacts on various groups of students, and based on the trade-off between network connectivity and in-person instruction
- Co-authored "Revisiting the small-world property of co-enrollment networks: A network analysis of hybrid course delivery strategies" (In press) (Link to preprint: <https://osf.io/jp6aq/>)

### Predicting Airbnb Prices and Quality in New York City

Remote

GEORGIA INSTITUTE OF TECHNOLOGY

March 2020 - April 2020

- Worked with classmates to build models that 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 that 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

## Volunteer Experience

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### Replate

Remote

DATA SCIENCE VOLUNTEER

September 2022 - Present

- Automating data processes for internal reports and recurring data requests