

# SAM MUSCH

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[sammusch.github.io](https://sammusch.github.io)

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## EDUCATION

UNIVERSITY OF MINNESOTA, Minneapolis, MN  
Carlson School of Management  
Candidate for **Master of Science in Business Analytics**

May 2020

UNIVERSITY OF NEBRASKA OMAHA, Omaha, NE  
Economics, BS in Business Administration  
*Magna Cum Laude*

May 2019

## EXPERIENCE

CARLSON ANALYTICS LAB, Minneapolis, MN

**Analytics Student Consultant**

July 2019 – Present

**Client: Leading Hospitality and Entertainment Business**

- Led team of six graduate students in reducing attrition among high-value customers
- Used clustering, decision trees, Poisson Regression to identify these customers
- Increased revenue by est \$1.4M / month by reducing attrition, presented findings to client

**Client: Mall of America (Exploratory Analytics)**

- Improved staff location within mall with user-adjustable Tableau heatmap
- Saved est \$5M / year in staffing with predictive model, presented findings to client

## PROJECTS | [sammusch.github.io/projects](https://sammusch.github.io/projects)

Predicting Crime in Minneapolis (6-person graduate team)

- Modeled and predicted crime with use of police data and Minneapolis tweets from 2019
- Built XGBoost model in AWS SageMaker, used Tableau to display neighborhood trends
- Predicted daily crime per police precinct within 25% and presented in public forum

Customer Forecasting (6-person graduate team)

- Predictive project to forecast number of daily visitors for 150 Japanese restaurants
- Led team in feature engineering with Python, helped create ensemble of LSTM and RNN
- Predicted daily traffic within 20% RMSE; delivered presentation to professor and coach

Industrial Economics Consulting (6-person undergraduate team)

- Used SQL, R and Tableau to identify and promote high-profit margin items for Stedman's Cafe
- Created data cleaning template to match inventory items with POS system
- Worked continuously with café lead and delivered actionable recommendations to staff

## SKILLS

- Python, Rstudio, SQL, Tableau, Microsoft Suite (Microsoft Excel, Word, Powerpoint, Access)
- AWS (S3, SageMaker), Spark, Hive, Hadoop, Linux, Git, Scikit-Learn
- SVM, Random Forest, XGBoost, Neural Networks, Clustering, Anomaly Detection, Association Rules, Bayesian Networks, Ensembling, Recommender Systems, Topic Modeling & LDA, PCA

## LEADERSHIP

UNIVERSITY OF NEBRASKA OMAHA, Omaha, NE

**Men's Golf Team (NCAA Division 1 Program)**

August 2015 – May 2019

- Played four years, named team captain by head coach for final two years
- 1 of 5 players in conference named All League - combination of academics and individual play
- Built Tableau dashboards following tournaments to improve on software used by team