COLLIN DOUGHERTY
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Summary and Education:

Experienced data scientist with a passion for predictive analytics and machine learning. Strong working knowledge of key programming languages, including Python and R, among others. Problem solver who thrives when working on challenging questions requiring a novel approach and attention to detail. Recent graduate with double major in mathematics and psychology. Uniquely equipped to understand both data and people. Proven track record of relationship building with excellent communication and presentation skills and ability to communicate highly technical concepts to a non-technical audience.

Bachelor of Science, Mathematics and Psychology, University of Nebraska-Lincoln, GPA: 3.87
Website: www.collindougherty.com

Software Competencies:

Python, R, SQL, SPSS, MATLAB, PowerBI, LaTex, Excel, Microsoft Suite

Relevant Experience:

Nebraska Athletics Data Scientist (2019-Current)

Worked in the Nebraska Athletic Performance Lab and the Husker Sports Analytics Department. Utilized statistical machine learning to analyze current player performance and build models predicting future performance. Mainly focused on modeling with random forests and GAM's, as well as multivariate linear regression. Extensive use of R and R libraries such as tidyverse and tidymodels. Worked with baseball, softball, volleyball and tennis teams. One particularly valuable experience included developing 'xStats' which I personally designed to predict how a player "should have" performed, after controlling for various luck factors. Another valuable experience was designing SDS, a model which evaluates batter swing or take decisions based on a variety of factors, such as pitch location, type, count, etc. Data collection, management, cleaning, model selection, training and testing. Worked under Tucker Zeleny and Bradley Smith, formerly with Yankee baseball analytics department.

Barna Group Data Analyst (2021)

Through the usage of data analysis skills and methodologies, I worked to understand survey data collected from around the world. In particular, I implemented statistical tests to identify statistically significant differences in variables collected from survey data, and to identify trends and relationships over time and between variables which were presented to clients and editorial teams alike to be written about and utilized. Data was both quantitative and qualitative. In addition to analysis, I planned study methodologies and wrote survey questions with the research team, as well as coordinating studies with a variety of clients, giving them valuable statistical insights to help navigate a constantly changing landscape.

Stock Market Analysis, Trading and Modeling (2019-Current)

Designed, coded, and implemented models used to make profitable decisions regarding price action and direction of equity, bond and cryptocurrency markets, through the usage of technical indicators, time series analysis and statistical machine learning. Utilized Python sklearn as well as R tidymodels to analyze the efficacy of various strategies. Variables considered range from technical analysis to fundamental analysis and valuation considerations. Additional implementation of price action trading strategies. Portfolio beating indexes by nearly 50% in past 6 months, amidst market correction. Special primacy given to risk management.

Resident Assistant at University of Nebraska-Lincoln (2019-2022)

Entailed community building, particularly hosting regular events for the purpose of creating and strengthening relationships between members of the floor. Particular responsibility to know each resident personally and check-in regularly, so as to best be able to provide support if needed, and to otherwise ease the first-year transition to campus life. As a campus leadership figure, the role often entailed having conversations with university administrators on topics ranging from improving community on campus to mental health and suicide prevention. UNL Resident Assistant of the Month (October 2019), UNL Student Staff Member of the Month (October 2020), 3 Time Nominee for RA/Student Staff of the Month

Projects of Note (see www.collindougherty.com)
SDS: Quantifying the Quality of Batter Swing Decisions Using Machine Learning

xStats: Predicting Expected Batter Stats by Controlling for "Luck" Factors
Effectiveness of Mask Use and Vaccination in the Prevention of COVID-19: A Mathematical Model
Development and Analysis of a Model for Predicting Salaries in Major League Baseball
Predicting NCAA March Madness Using Machine Learning

Relevant Coursework & Honors:

Mathematical Statistics I and II, Statistics & Applications, Regression Analysis, Sports Data Visualization & Analysis, Research & Data Analysis, Advanced Sports Data Analysis, Differential Equations, Linear Algebra, Modern Algebra, Elementary Analysis, Group Theory

Eastman Scholar (Awarded to top 5 UNL mathematics majors in each class), Big Red Scholar (Honor for most distinguished incoming UNL freshmen), Chancellor's Scholar (National Merit Finalist), Graduation with Distinction, 6x Dean's List