

DAYNE CORDRAY

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EDUCATION

University of Iowa

Master's, Computer Science

- Algorithms, Database Systems, Text Analytics, Quantitative Finance and Deep Learning, Fundamentals of Software Engineering, Operating Systems

Aug 2023 - May 2025

GPA: 3.81

University of Iowa

Bachelor's, Economics

- Econometrics, Statistical Forecasting, Banking & Financial Markets, Global Economics

Aug 2019 - May 2023

GPA: 3.7

University of Iowa

Bachelor's, Informatics

- Software Development Tools (C#, Azure, Git), Server-Side Development (AWS)

Aug 2019 - May 2023

GPA: 3.7

PROFESSIONAL EXPERIENCE

University of Iowa

Teaching Assistant

- Assisted in teaching 2 courses per semester, including Server-Side Development, Introduction to Web App Development, Programming for Informatics, and Software Architecture for Healthcare Information Systems.
- Held office hours for 3-6 hours weekly, providing additional support and guidance to students.
- Lectured on course material, answered general inquiries, and managed email correspondence.
- Graded assignments and projects, ensuring timely feedback and maintaining academic standards.

Iowa City, IA, USA

Aug 2023 - Present

Cambridge Investment Research

Data Scientist Intern

- Managed development of an application to analyze data from over 3,800 advisors, predicting probability of departure and estimating potential exit timelines.
- Collaborated with 20+ associates to conduct comprehensive interviews, establishing a strong foundation for data preparation; analyzed feedback and reported findings, optimizing feature engineering.
- Formulated an innovative approach by using an ensemble neural network model, processing over 100 variables from advisor data to accurately determine termination probabilities and timelines.
- Attained 75% prediction accuracy in retention models, influencing firm-wide decision-making. Regularly presented project progress to 10+ associates and final results to executive board.

Fairfield, IA, USA

May 2023 - Aug 2023

Root and Groot

Software Developer Intern

- Built an advanced ReactJS site featuring interactive maps, secure login, and quiz tracking, utilizing modern design principles.
- Engineered a robust backend with Node.js and SQL, ensuring efficient data management and platform security through protection against injection attacks.
- Integrated user feedback in design of interfaces throughout application, enhancing usability and customer satisfaction.
- Executed launch of an interactive web platform, bolstering a 25% boost in positive ratings from surveyed users.

Iowa City, IA, USA

Mar 2023 - May 2023

PROJECTS & OUTSIDE EXPERIENCE

Heston Options Pricing Model

Quantitative Analyst

- Designed a stochastic Heston model for pricing options using QuantLib and Python, integrating real-time financial data from Yahoo Finance and U.S. Treasury for accurate market conditions.
- Calibrated model parameters using Nelson-Siegel-Svensson methods and scipy's optimization tools; utilized Monte Carlo simulation and Fourier transforms for robust validation and volatility surface fitting.
- Conducted in-depth analysis and visualization of option data with Plotly, demonstrating model accuracy by comparing actual vs predicted prices, optimizing trading strategies, and enhancing risk management insights.

Apr 2024 - May 2024

Arbitrage Betting

Sole Developer

- Challenged to rapidly identify arbitrage opportunities in NFL sports betting, employing statistical analysis to refine betting strategies.
- Created a Python-based solution to evaluate betting odds, achieving approximately 80% accuracy in pinpointing 0.5-3% arbitrage opportunities.
- Deployed tool during NFL playoffs to identify six arbitrage bets across 13 games, securing a total return of 4.3%.

Oct 2022 - Nov 2022

SKILLS

Skills: Node.js, Agile, AWS, Data Science, Business Analytics, Git, Keras, C/C++, NumPy, Pandas, Pytorch, REST APIs, SCRUM, SQL, Python, Excel/Numbers/Sheets, Machine Learning, Statistics