Sydney Casey

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Portfolio: https://scc-data-science-portfolio.glitch.me/projects.html / Columbus, OH - willing to relocate

I bring a strong foundation in data science, statistical analysis, and mathematical modeling with experience in analyzing large datasets and curating new data for insights. My expertise lies in collaborating with cross-functional teams to deliver data-driven intelligence, applying novel statistical methods, and communicating complex results effectively to stakeholders. Passionate about leveraging data to create meaningful outcomes and committed to continuous learning.

EDUCATION

Master of Science in Health Data Science, University College London (UCL)   Sept. 2023

GPA: 3.75 / 4.00 (UK Distinction)

Relevant coursework: machine learning for healthcare & biomedicine, advance machine learning for healthcare, regression modeling, advanced statistics for records research, data methods for health research, programming with python for health research

Bachelor of Arts in Biochemistry, Mount Holyoke College   May 2016

GPA: 3.54 / 4.00 (Cum laude)

Mount Holyoke Leadership Award

KEY COMPETENCIES

- **Programming languages**: Python, SQL, STATA, R
- **Data Science & Machine Learning**: Mathematical modeling, Model Evaluation, Hypothesis testing, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Python (eg. scikit-learn, numpy, pandas, matplotlib)
- **Data Visualization & Analysis Tools**: Tableau, Power BI, Matplotlib, Seaborn, JupyterLab, Streamlit, R Shiny
- **Additional Tools & Technologies:** Microsoft Office, Excel, MySQL, Git, Docker, Snowflake (foundational), Azure, Survival Analysis, Statistics, Time Series Analysis, Experimental Design, APIs, PySpark, Flink, Kafka
- **Technical Reporting:** Strong skills in scientific reporting and presenting data to diverse audiences

SELECTED PROJECTS

Healthcare Quality Improvement Analytics (Synthetic Data) | Personal Project   Dec. 2024

- Analyzed healthcare synthetic quality improvement data to explore patient demographics using R for data cleaning, transformation, and statistical analysis.
- Developed a dynamic, interactive Tableau dashboard to visually communicate key insights, trends, and patient demographic patterns.
- Optimized the dashboard for clarity and ease of use, with features such as filterable views and drill-down capabilities, enhancing user experience.

Predicting Length of Critical Care Days in Welsh Intensive Care | UCL   June 2023 - Sept. 2023

- Developed and optimized a two-stage model by integrating a Random Forest classifier with an XGBoost regressor for continuous prediction of critical care days from using a novel dataset of electronic health records.
- Achieved a mean absolute error (MAE) of 1.732 with a sensitivity of 0.892 for values less than nine days, utilizing Shapley Additive Explanations (SHAP) to identify the most influential features and enhance model transparency.

PROFESSIONAL EXPERIENCE

Research Assistant

Nationwide Children's Hospital, Columbus, OH   Sept. 2020 - Aug. 2021

- Collected and interpreted experimental data, providing insights that influenced key decisions in ongoing research projects and clinical studies.
- Delivered weekly research presentations to peers and senior researchers, effectively communicating complex data analyses to guide experimental adjustments and future research directions.

Postbaccalaureate Award Fellow

National Institutes of Health, Bethesda, MD   April 2017 - June 2019

- Conducted data-driven research on neuronal ceroid lipofuscinoses (NCLs), establishing it as a valuable resource for researchers and clinicians, with over 90 citations.
- Spearheaded individual research projects targeting diverse molecular pathways in infantile NCL, amplifying the knowledge base within the field and catalyzing advancements in treatment strategies.

PROFESSIONAL DEVELOPMENT

- Datacamp Machine Learning Engineer Career Path
- Datacamp Deep Learning Skill Path
- Code First Girls - Intro to Java
- Code First Girls - Intro to Cloud and Deployment
- Datacamp Associate AI Engineer for Data Scientists Career Path
- Microsoft Azure: Data Science Career Path
- DataExpert-io Data Engineering Bootcamp
- Imperial College - Mathematics for Machine Learning (Coursera)

VOLUNTEERING

DataKind - DataKit Housing Challenge Contributor   Sept. 2024 - Oct. 2024

Analyzed geospatial and census data to develop post-disaster housing strategies.

Tech Corps - Hackathon Volunteer   November 2024

Mentored students in coding projects, fostering technical problem-solving skills