KENDRA FREDERICK PH.D.

DATA SCIENTIST

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Data Scientist with strong technical & communication skills. Well-versed at employing data to make business decisions.

Skills

MACHINE LEARNING

Regression
Classification
Clustering
Natural Language Processing
Dimensionality Reduction

LANGUAGES

Python
SQL
HTML / CSS
JavaScript

LIBRARIES AND FRAMEWORKS

scikit-learn
statsmodels
BeautifulSoup
Selenium
NLTK
gensim
Flask
Plotly

DATA MANAGEMENT & CLOUD TOOLS

PostgreSQL
MongoDB
Google BigQuery
AWS
Git/GitHub

Projects

Small Molecule Drug Predictor

- Used CatBoost Classifier to predict whether a small molecule drug candidate would receive FDA approval based on its physiochemical properties and bioactivity.
- Queried a 77-table SQL database to obtain data for over 1 million small molecules.

The Gangsta Score: Exploring Rap and Country Music Lyrics

- Leveraged topic modeling with Latent Dirichlet Allocation to engineer the "Gangsta Score": the degree to which a song features Rap topics over Country topics.
- Created a web app using Flask and D3 which returns the "Gangsta Score" for user-entered lyrics.
- Employed other Natural Language Processing (NLP) tools such as K-Means clustering to discover cross-genre songs.

Breast Cancer Survival

- Applied classification algorithms to predict 5-year survival in breast cancer patients using epidemiological data from the National Cancer Institute.
- Investigated Logistic Regression, Naive Bayes, CART, and Gradient Boosting models aiming to maximize ROC AUC. Explored over- and under-sampling to address class imbalance.

NFL Elo Rankings

- Applied Multivariate Linear Regression to predict the change in an NFL team's Elo Ranking.
- Used BeautifulSoup and Selenium to scrape Football statistics from the web.
- Modified FiveThirtyEight's code to compare algorithms against each other.

Experience

Metis
Seattle, WA
Data Science Bootcamp — Sept. 2018 - Dec. 2018

- Full-time, 12-week, ACCET-accredited program covering the fundamentals of data science including supervised and unsupervised learning, probability and statistics, and data visualization.
- Project-oriented curriculum emphasized project design, data acquisition and cleaning, exploratory data analysis, statistical modeling, and communicating results.

Two Roads Brewing Company
Stratford, CT
Quality Assurance: Director, Manager — Nov. 2012 - July 2018

- Built and managed Quality program for a start-up craft brewery.
- Compiled, analyzed, and interpreted data to set brand specifications and control limits.
- Deployed VBA/Excel-based batch file system to capture process data. Participated in design of and migration to Ignition SCADA software system.
- Collaborated with other Departments to continuously improve processes and products.
- Managed annual departmental CapEx ($60-100k) and Operating ($120-150k) budgets.
- Awarded Master Brewers Association of America scholarship to Brewing & Malting Science course.

Protein Sciences Corporation
Meriden, CT
Process Development Scientist: I, II — June 2009 - Oct. 2012

- Developed and implemented novel characterization assays for recombinant protein vaccine.
- Managed project that was a major milestone in a government contract.
- Coordinated with external collaborators, customers, and vendors.
- Served as lead Scientist on a customer project billing >$100k monthly.

Education

Yale University
Sept. 2002 - May 2009
Ph.D. Molecular Biophysics and Biochemistry

• Evaluated experimental results against thermodynamic models using non-linear curve fitting and simulation.
• Awarded Howard Hughes Medical Institute Predoctoral Fellowship.

University of Wisconsin-Madison
Sept. 1997 - May 2001
B.S. Molecular Biology