Dana Zarezankova

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Objective: Senior year student seeking opportunities in software engineering and machine learning.

About Me

Professional Interests: machine learning applications in healthcare
Languages: Python, C++, C#, SQL, MATLAB
Libraries: pandas, NumPy, Matplotlib, scikit-learn, PyTorch, PySpark, Selenium, LangChain
Developer Tools: Git, AWS, Databricks, PyCharm, JIRA, Cypress

Experience

Machine Learning Intern May. 2023 – July 2023
Hinge Health *Waterloo, Canada*

- Implemented batch processing for PHI data ingestion and sanitizing to increase data processing speed by 200%.
- Improved PyTorch model's precision and recall for identifying high insurance cost patients by 10%.
- Used ChatGPT, Jurassic 2, and Claude APIs to generate personalized MSK educational articles for users.

Medical Artificial Intelligence Research Assistant Jan. 2023 – Apr. 2023
University of Waterloo *Waterloo, Canada*

- Developed end to end medical record matching system using random forests, XGBoost, and logistic regression.
- Implemented library for sk-learn machine learning model export to JSON for cross platform usage.
- Implemented Python libraries to support medical record data processing for record matching.

Data Scientist May – Aug. 2022
Alife Health *San Francisco, USA*

- Reduced mean absolute error of multiple regression model for egg retrieval predictions by 30%.
- Gained insight into competitor products using a Monte Carlo simulation to approximate the error of competitor models using their research accuracy.
- Automated data collection from an online birth rate predictor to enhance our patient success data set using Selenium.
- Redesigned the intelligent in-vitro fertilization clinic finder using historical data to develop insight into clinic success.

Data Scientist Sept. – Dec. 2021
Alife Health *San Francisco, USA*

- Lead the first iteration of an intelligent in-vitro fertilization clinic finder for patients.
- Scraped and cleaned clinic success and patient statistics from the CDC for a clinic ranking system.
- Designed and conducted user interviews with patients to validate a relevant and insightful clinic ranking system.
- Automated web scraping to collect patient review information on doctors and clinics for clinic profile pages.

Projects

Clusters and Classification Boundaries Lab (SYDE 572) | *MATLAB* Feb 2022

- Generate normally distributed clusters that match specific class means and covariances.
- Compared minimum and generalized euclidean distance, maximum a priori, and NN and kNN classifiers.
- Compared success with error rates and confusion matrices.

COVID-19 Pandemic Simulation | *MATLAB* Apr. 2020

- Used MATLAB for differential equation analysis and visualization.
- Created COVID-19 epidemiological model to observe susceptible, infectious and recovered populations.

Education

University of Waterloo Waterloo, ON, Canada
Bachelor of Applied Science in Honours Biomedical Engineering *Sept. 2019 – April 2024*

- Relevant Courses: BME 122 Data Structures and Algorithms, SYDE 572 Pattern Recognition