Yunmei Zheng

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Education

University at Buffalo Buffalo, NY

Bachelor of Science, Engineering Science September 2019 – May 2023

- Courses: Applied Probability and Statistics, Introduction To Data Science, Statistics for Engineers, Engineering Computations, Analytics and Computing, ML and Society

Experience

Electrical Engineering Intern June – August 2022

Syska Hennessy Group *NYC, NY*

- Collaborated with interdisciplinary engineering teams and external partners to support successful project completion
- Contributed to a variety of projects using AutoCAD and Revit, providing valuable technical assistance to engineers
- Conducted load calculations for an airport and generated single-line diagrams and schematics to ensure efficient power distribution
- Managed data entry for lights and wires using Excel and AutoCAD, ensuring accurate and organized documentation

Projects

Impact of Atomic Bombings on Cancer Incidence | *R, Rshiny* April 2023 – Present

- Conducting an analysis of the correlation between cancer and atomic bombings in Hiroshima and Nagasaki. Examining various factors such as sex, gender, distance, and other relevant variables using statistical techniques

Flow Layout | *Excel* March 2023 – Present

- Designed and implemented an optimized production flow strategy for a board game "company" using techniques such as DCA, progress flow, and MIP. Strategically configured machinery placement to streamline production, reduce lead times, and increase productivity

Bias in Police Force | *Python* January 2023 – Present

- Employed NLP techniques to extract meaningful insights from police body camera transcripts, identifying key indicators of officer behavior that may lead to misconduct. Designed and implemented a predictive classification model to effectively identify higher risk officers for such behavior

Quantum Computing, Concord Consortium | *Python, Qiskit, HTML* November 2022 – Present

- Designed and developed an educational game that enhances students' understanding of quantum computing, by creating engaging game mechanics and user interface. Optimized game performance and user experience through user testing.

Machine Learning for River Forecasting, US Army | *Python, R* October 2022 – January 2023

- Developed a robust model utilizing observed river data, precipitation gauge data, and forecast precipitation to accurately forecast flow levels at multiple points along the Genesee River

Demographics and Air Quality in NYC | *R, RShiny* August – December 2022

- Developed and applied multiple machine learning models, including regression and clustering, to accurately predict areas with high levels of pollutants and the corresponding demographics. Achieved 70% accuracy in the predictions through data analysis and model optimization.

Motion Sensors | *Google Colab, Excel* February – April 2022

- Conducted an experiment capturing data on the projected route of the object and the user's body joint position when throwing. Analyzed the data to establish the individual performance accuracy by determining optimal throwing motion and velocity. Improved individual throwing accuracy by 15% through data-driven recommendations

Technical Skills

Languages: Python, R, MATLAB, SQL, C/C++, HTML/CSS, JavaScript
Machine Learning: Classification (Logistic Regression, Decision Tree), Clustering (K-Means), Descision Tree
Libraries: ggplot2, Rshiny, Pandas, NumPy, Matplotlib, NLTK, Seaborn, Qiskit
CAD: AutoCAD, Civil3D, Fusion360, SolidWorks, Revit