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 on 5 projects, contributing to 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 for a major bank building
- 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* April 2023 – May 2023

- Conducted an in-depth analysis using historical records to examine the correlation between cancer incidence and the atomic bombings in Hiroshima and Nagasaki. Utilized regression analysis and other statistical techniques to analyze and interpret the data

Flow Layout | *Excel, Python* March 2023 – May 2023

- Designed and implemented an optimized production flow strategy for a board game "company," employing techniques such as Direct Clustering Algorithm (DCA), CRAFT, and Mixed Integer Programming (MIP). Strategically configured departments placement to streamline production, resulting in a significant 3% reduction in costs and improved workflow optimization.

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

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

Quantum Computing, Concord Consortium | *Python, Qiskit, HTML, CSS, JS* November 2022 – May 2023

- Designed and developed an educational game that introduces students to the basics of quantum computing while enhancing their understanding. 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,
Libraries: ggplot2, Rshiny, Pandas, NumPy, Matplotlib, NLTK, Seaborn, Qiskit
Software: Tableau, AutoCAD, Civil3D, Fusion360, SolidWorks, Revit