

# 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 a comprehensive analysis of the correlation between cancer and atomic bombings in Hiroshima and Nagasaki, utilizing statistical techniques such as regression, ANOVA, and various machine learning algorithms

### Flow Layout | *Excel*

March 2023 – Present

- Developing a production flow strategy for a board game company by configuring machinery placement to optimize workflow and increase productivity

### Bias in Police Force | *Python*

January 2023 – Present

- Utilizing NLP to analyze transcripts from police body cameras, identifying key indicators of officer behavior that may lead to misconduct. Developed a classification model to predict which officers may be at higher risk for such behavior

### Quantum Computing, Concord Consortium | *Python, Qiskit, HTML*

November 2022 – Present

- Developed an educational game that enhances students' understanding of quantum computing. Designed game mechanics, and user interface to create an engaging and intuitive learning experience. Conducted user testing to optimize game performance and improve user experience

### 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 various machine learning models, such as regression and clustering, to predict areas with high levels of pollutants and to identify potential contributing factors
- Achieved 70% accuracy in pollutant prediction models

### Motion Sensors | *Google Colab, Excel*

February – April 2022

- Conducted an experiment using Vicon systems to capture 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 on optimal throwing motion and velocity

## TECHNICAL SKILLS

**Languages:** Python, R, MATLAB, SQL, C/C++, HTML/CSS, JavaScript

**Machine Learning:** Classification (Logistic Regression, Decision Tree), Clustering (K-Means), Decision Tree

**Libraries:** ggplot2, Rshiny, Pandas, NumPy, Matplotlib, NLTK, Seaborn, Qiskit

**CAD:** AutoCAD, Civil3D, Fusion360, SolidWorks, Revit