

Education

University of Michigan

December 2022

Master of Science in Environmental Engineering
Ann Arbor, Michigan 48109

University of Michigan

December 2021

Bachelor of Science in Environmental Engineering
Ann Arbor, Michigan 48109

Work Experience

University of Michigan

Jan, 2022 – Present

Research assistant/Data analyst

- Implemented linear regression model for prediction of total organic carbon.
- Automated data cleaning, merging, and visualizations for multiple features.
- Created, and managed database used to backup and query data for research.
- Conducted exploratory analysis (pairs plots, statistical summary tables, model Fitting, etc.) on biological data to assist in research analysis.

City of Ann Arbor – Ann Arbor Drinking Water Treatment Plant

May, 2021 – Nov, 2021

Water quality Intern

- Created r code to analyze particle counter and historic softening data for use by operators to optimize plant operations during storm events.
- Ran statistical analysis to determine correlation between multiple water treatment plant parameters to assist with dosing requirements.
- Experimented with ozone decay models to determine the percent overdosing of ozone inside the contactors.

Skills

Rstudio/Rshiny

Data Preprocessing

HTML

Python programming

Data visualization

CSS

SQL

Machine learning

Microsoft Office

Projects

Prediction of cyanobacteria concentration using deep learning neural network

- Preprocessed data for model training, imputed missing data with multiple imputation, and analyzed correlations and feature importance.
- Trained deep learning neural network using each imputed datasets for statistical accuracy.

Examination of the effect of antecedent soil moisture on runoff during storm events

- Created python function which scrapped geospatial data collections from Google Earth Engine.
- Ran data analysis and visualization in R for all Google Earth Engine and field sensor data.

Analysis of particle count data to optimize treatment plant operations.

- Automated the cleaning, merging, and statistical analysis of multiple water treatment datasets using R and created interactive dashboard with Rshiny for use by operators to optimize treatment processes.
- Ran exploratory analysis on parameters to determine correlations between particle counts and other environmental variables, such as carbon bed changeout and river water level.

Achievements

Python 3 Certification: Earned specialization certificate in Python 3 from Coursera

Applied Data Science with Python: Earned specialization certificate in applied data science from Coursera

Pelham graduate scholar: Joined Pelham Scholars program based on achievement, diversity, and inclusion