

# WEIQUAN LUO

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## PROFILE

Four years of research experience in solving real-life problem. Proficiency in building complete data pipeline and executing statistical and machine learning models. Ability to develop innovative and practical solutions to complex problems without direct technical supervision. Actively seeking data analyst/science position.

## TECHNICAL SKILLS

**Software:** R (caret, tidyverse, ggplot2), Python (scikit-learn, Keras, Tensorflow, EDA), Tableau, MySQL, Git

**Data Science:** ETL, Statistical Analysis, Machine Learning, Computer Vision, NLP, Data Mining, Data Visualization.

## EDUCATION

### M.S. with Thesis at Iowa State University

Major: Biological System Engineering

Minor: Statistics

GPA: 3.65/4.00 | Spring 2018 to Winter 2020

### B.S. at Iowa State University

Major: Biological System Engineering

GPA: 3.66/4.00 | Fall 2014 to Winter 2017

## CERTIFICATE AND HONOR

Tableau Specialist Certificate | Since 2021

Alpha Epsilon | Scholastic Honor Society | Since 2019

Tau Beta Pi | Engineering Honor Society | Since 2017

## TEACHING ASSISTANT

### Applied Numerical Methods

Fall 2016 to 2018 | Iowa



- Maintained teaching quality with weekly update regarding students' learning status.
- Handled high-volume students' questions with effective communication during walk-in hours.

### Engineering Graphics and Design

Spring 2014 to Fall 2015 | Iowa

- Received NO. 1 ranking in student evaluation.
- Demonstrated 3D modeling technique, and solved students' problems

## PROJECTS

### Cornell Birdcall Identification

Residual Attention Network | Fall 2020 | Kaggle



### Santander Customer Transaction Prediction

Multilayer Perceptron | Fall 2019 | Kaggle



**Portfolio Website:** [weiquanluo.github.io](https://weiquanluo.github.io)

Receiving 1.9k views | Since 2019 | GitHub



## RESEARCH

### Multiscale Analysis Framework for WEF Nexus

Summer 2018 to Winter 2020 | Iowa



- Designed a new analysis framework using probability graphical model after wide range of review on modeling techniques.
- Obtained gigabytes of data using APIs and web scrapping from multiple sources to construct a prototype of WEF database.
- Modularize ETL process with object-oriented programming and parallel processing to homogenize data to multiple scales.
- Cooperated with principal investigators to educate the larger research group on the effect of study scale.

### Analysis of the EIO Life Cycle Assessment

Winter 2019 | Ames, IA



- Main contributor to design the workflow to evaluates 20 environmental impacts.
- Implemented split-apply-combine strategy to fit generalized linear models to each impact.
- Identified the outlier Industries with DBSCAN clustering.

### Meta-analysis on Swine Manure and Fertilizer

Fall 2017 to Spring 2018 | Iowa



- Extracted 200+ datapoint from 39 journal articles.
- Tested statistical significance by conducting Meta-analysis over six moderators.

### Success Strategies for At-Risk Students

Fall 2017 | Iowa



- Identified at-risk students and the important behavioral factors with tree-based models based on pre-enrollment data.
- Discover the relationship between performance and behaviors with statistical test.
- Protected participant privacy by implementing procedures from human subject research training.