

# WEIQUAN LUO

🏠 2121 6TH AVE APT. N305 SEATTLE, WA 98121

📞 (845) 729-1221

✉ WEIQUAN.LUO1221@GMAIL.COM

🌐 WEIQUANLUO.GITHUB.IO

## EDUCATION

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

Major: Agriculture and Biosystem Engineering

Minor: Statistics

GPA: 3.65/4.00 | Graduating in Dec 2020

### B.S. at Iowa State University

Major: Agriculture and Biosystem Engineering

GPA: 3.66/4.00 | Graduated in Dec 2017

## SKILLS

📊 R	● ● ● ● ●
🐍 Python	● ● ● ● ○
🗄 MySQL	● ● ● ● ○
📌 Microsoft Excel & VBA	● ● ● ● ●
📈 Statistical Method	● ● ● ● ○
⚙ Machine Learning	● ● ● ● ○

## TEACHING ASSISTANT

### Applied Numerical Methods

Fall 2016 to 2018 | Ames, IA



- Communicated with the instructor by weekly reports on the students' learning status.
- Enhanced students' learning experience by assisting in-class teaching and hosting a TA sections.
- Organized the course concept and demonstrated them to the students.

### Engineering Graphics and Design

Spring 2014 to Fall 2015 | Ames, IA

- Received NO. 1 ranking in student evaluation within the department.
- Collaborated on curriculum, demonstrated modeling technique, and solved students' problems.

## COMPETITION

### Santander Customer Transaction Prediction

Fall 2019 | Kaggle



### Cornell Birdcall Identification

Fall 2020 | Kaggle



## RESEARCH PROJECT

### Multiscale Modeling Framework for Water-Energy- Food Nexus

Summer 2018 to Present | Ames, IA



- Independently developed a new modeling framework by applying probabilistic graphical models.
- Collected gigabytes of data from multiple sources with APIs.
- Designed a pipeline to integrate the heterogeneous data using object-oriented programming and parallel processing.
- Evaluated the model structure using network analysis to investigate the relationship between humans and the environment.

### Analysis of the Economic Input-Output Life Cycle Assessment

Winter 2019 | Ames, IA



- Collaboratively designed a workflow that evaluates 20 environmental impacts by the dog and cat food manufacturing industry.
- Implemented split-apply-combine strategy to fit generalized linear models to each impact.
- Identified the outlier Industries in the supply chain using DBSCAN clustering.

### Meta-analysis on Swine Manure and Commercial Fertilizer

Fall 2017 to Spring 2018 | Ames, IA



- Independently accomplished data collection and cleaning, modeling; collaborated on paper write-up.
- Extracted and analyzed 200+ data points from multiple research articles based on specific criterions.
- Conducted a Meta-analysis to compare the effects of manure and fertilizer on crop yield and the environment.

### Beating the Odds: Success Strategies for At-Risk Students

Spring 2017 | Ames, IA



- Developed a classification & regression tree to identify at-risk first-term students based on pre-enrollment data.
- Determined and applied the proper statistical methods to discover the relationship between first-year course performance and self-reported behaviors by risk categories.
- Used a random forest model to identify behaviors that differentiate at-risk students who "beat the odds."
- Protected participant privacy by implementing recommended procedures from a human subject research training.