WEIQUAN LUO

📞 (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.

COMPETETION

Cornell Birdcall Identification
Fall 2020 | Kaggle   💲🗋 | ⚙

Santander Customer Transaction Prediction
Fall 2019 | 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.
- 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 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.