WEIQUAN LUO

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PROFILE

Four years of experience in academic research. 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 a data analyst/science position.

TECHNICAL SKILLS

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

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

Certificate: Tableau Specialist Certificate

EDUCATION

M.S. with Thesis at Iowa State University

Major: Agricultural and Biosystems Engineering
Minor: Statistics
GPA: 3.65/4.00 | Spring 2018 to Winter 2020
Honor Society: Alpha Epsilon, Tau Beta Pi

B.S. at Iowa State University

Major: Agricultural and Biosystems Engineering
GPA: 3.66/4.00 | Fall 2014 to Winter 2017

TEACHING ASSISTANT

Applied Numerical Methods

Fall 2016 to 2018 | IA

- Maintained teaching quality with weekly update regarding students' learning status.
- Evaluated and gave feedback to students on their work in class and by online communication.

Engineering Graphics and Design

Spring 2014 to Fall 2015 | IA

- Received NO. 1 overall evaluation by students.
- Demonstrated 3D modeling technique, and solved students' problems

PROJECTS

Cornell Birdcall Identification

Fall 2020 | Kaggle

- Classified bird type using residual squeeze-and-excitation network on the Mel-Frequency Cepstral Coefficients of 25 Gb birdcall audios. (F1 = 0.7534)

Santander Customer Transaction Prediction

Fall 2019 | Kaggle

- Identified which customers will make a specific transaction using feature engineering and multilayer perceptron. (AUC = 0.9428)

Portfolio Website: weiquanluo.github.io

Since 2019 | GitHub

- Posted study notes, projects, and blogs to the open source communities, receiving 1.9k views.

RESEARCH

Multiscale Analysis Framework for WEF Nexus

Summer 2018 to Winter 2020 | IA

- 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 | IA

- Main contributor for designing 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 | IA

- 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 | IA

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