WEIQUAN LUO

Pittsburgh, PA | (845) 729-1221 | weiquan.luo1221@gmail.com
linkedin.com/in/weiquanluo | weiquanluo.github.io

PROFILE

4+ years of research experience in collecting, analyzing, and interpreting large structured or unstructured dataset. Proficient in wide range of machine learning and statistical methods. Currently migrating skills and techniques into business analysis and recommendation system. Seeking full time opportunity in data analyst/scientist position.

TECHNICAL SKILLS

Machine learning:	**Software:**
Computer vision, Natural language processing,	Python (scikit-learn, Keras, Tensorflow, PySpark)
Dimension reduction, Ensemble learning	R (glm, caret, tidyverse, ggplot2, Shiny)
Statistics:	MySQL, Tableau, Excel, Git
Generalized linear model, ANOVA (A/B Testing),	**Certificate:** Tableau Specialist Certificate
Experimental design	

EDUCATION

M.S. with Thesis at Iowa State University	Ames, IA
Major: Agricultural and Biosystems Engineering, Minor: Statistics (GPA: 3.65/4.00)	Jan 2018 - May 2021
B.S. at Iowa State University	Ames, IA
Major: Biological Systems Engineering (GPA: 3.66/4.00)	Aug 2013 - Dec 2017

PROJECT

"Algorithm and architecture in recommendation system" — Jan 2021 - Present
- Architecture: sorted modeling and serving tasks by resource and latency requirement into online, nearline, and offline.
- Matching module: personalized and diversified the recommendation using model-based **collaborative filtering**, such as deep structured semantic models (nearline) and ALS matrix factorization (offline).
- Ranking module: increased click-through rate by ordering the recommendations using **Wide&Deep** model (nearline).

"E-commerce business analysis on advertising strategy" — Dec 2020 - Jan 2021
- Personalized the advertising strategy by **user profiling**, **customer segmentation**, and **KPI analysis**.
- Evaluated the efficiency using **AARRR** conversion funnel in longitudinal studies.

"Bird song classification with deep learning" — Oct 2020 - Dec 2020
- Allocated the session resource of the Kaggle notebook to classify 25-Gigabit birdcall audios into 265 bird species.
- Enabled **computer vision** techniques by converting audios to spectrum with short-time Fourier transformation.
- Improved the leader board score by iterating the residual attention **neural network**.

"Portfolio Website: weiquanluo.github.io" — Jan 2019 - Present
- Managed projects and study note on GitHub website, receiving 2k views monitored by **Google Analytic**.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant for M.S. Thesis "Multiscale Analysis Framework for WEF Nexus" Jun 2018 - Dec 2020
Department of Agricultural and Biosystems Engineering, Iowa State University
- Designed a multiscale analysis framework consisting of **Markov random field** model and **network analysis.**
- Characterized the interlinkages among natural resources using **network statistics**.
- Collected gigabytes of spatiotemporal data from multiple sources using **APIs** and **web scraping**.
- Processing the data by parallelly executing the **ETL** module on different cores to result dataset at various scales.
- Provided consultations for the larger group on the effect of scales, cooperating with principal investigators

Undergraduate Research Assistant in Project "Success Strategies for At-Risk Students" Aug 2017 - Dec 2017
Department of Agricultural and Biosystems Engineering, Iowa State University
- Merged tables using **Vlookup** in excel to combine first-year students' performance and profile data.
- Quantified the effects of behaviors on students' performance using **random forest** and one-way **ANOVA** on ranks.
- Protected participant privacy by implementing procedures from human subject research training.

Teaching Assistant for Course "Applied Numerical Methods" Aug - Dec 2016, 2017, 2018
Department of Agricultural and Biosystems Engineering, Iowa State University
- Evaluated and gave feedback on students' work of solving **optimization** problems and differential equation
- Maintained teaching quality by regularly reporting students' learning status to the course instructor.