

YIWEN ZHANG

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EDUCATION

University of Pittsburgh

Ph.D in Psychology (Cognitive) with Quantitative Minor, GPA 4.0

Pittsburgh, PA

2019 – 2024

Zhejiang University

B.S. in Psychology, GPA 3.88/4.0 (honored graduation, ranked #1 in Department of Psychology)

Hangzhou, China

2015 – 2019

EXPERIENCE

UX Intern for Advanced Driver-Assistance Systems(ADAS)

Montaube Design (Hangzhou) Ltd. Co.

Nov 2018 – Apr 2019

Hangzhou, China

Mentor: Dr. Fang Chen, Chalmers University of Technology, Gothenburg, Sweden

- This project aimed to design user-friendly interface panels for ADAS and provide information for ADAS industry regulation in China
- Investigated User Experience of ADAS based on Tesla Model S, Volvo XC60 and Geely Borui GE by one-to-one interview

SELECTED PROJECTS

Bayesian Modeling of Episodic Memory in Causal Learning

Advisor: Dr. Ben Rottman, University of Pittsburgh

Mar 2020 – Present

Pittsburgh, PA

- The goal of this study is to figure out the underlying strategies subjects are using when doing causal judgement.
- Built probability models for multiple potential strategies
- Ran **MCMC** with 10K+ iterations averaging multiple potential models(strategies) to capture subjects' behavior using **JAGS and R**

Causal Learning Under Interrupted Time Series

Advisor: Dr. Ben Rottman, University of Pittsburgh

May 2020 – Present

Pittsburgh, PA

- Investigated whether people will infer illusory causal relationship based on interrupted time series.
- Implemented **interrupted time series analysis**, **ANOVA**, **Bayes Factor** and **post hoc test** and **visualized** the results using R (tidyverse, ggplot2)

Mobile-based Long-term Real-life Causal Inference Study

Advisor: Dr. Ben Rottman, University of Pittsburgh

Aug 2019– Present

Pittsburgh, PA

- Designed a between-subject long-term experiment to investigate how people process delayed causal information
- Recruited 200+ subjects, performed **regression**, **Bayes factor** and **permutation test** to analysis data using **R**
- Engaged in the full-stack development of mobile based study, using Flask, Firestore and Vue.js
- Shared this experiment as a template for designing, programming, and running Psychology experiments in the cloud, wrote tutorials and instructions to share this template to psychology community.

A Machine Learning Approach to Predict Human Causal Judgement

Applied Machine Learning, Carnegie Mellon University

March 2020 – May 2020

Pittsburgh, PA

- Explored using machine learning classifiers to predict human causal judgement by comparing performance of different ML algorithms (Naïve Bayes, J48, LWL, SVM) by cross-validation
- Trained and optimized a model by using bagging with J48 classifier to predict causal judgement in a psychology experiment and significantly increased performance by 5%

SKILLS

Methods

- Working with data: R (tidyverse), Python (numpy, pandas), SQL, SPSS
- Stats expertise: Bayesian Modeling, Regression, Hierarchical and Mixed Effects Modeling, Categorical Data Analysis, Model Selection and Dimension Reduction, Neural Network, Reinforcement Learning, Resampling(Cross Validation, Bootstrap)
- Other expertise: Experimental and Survey Design

Web development

- JavaScript, HTML/CSS, Vuejs, Flask, Github, Google Cloud, Google firestore, and Unity(C#)

PUBLICATIONS & POSTERS

Zhang, Y., Yang, Z., Liang, J., Wu, F., Gao, Z. (2018, July). Object-based Attention, not Spatial Attention, is Critical for Encoding Feature Binding in Visual Working Memory. Poster presented at the 14th Asia-Pacific Conference on Vision and the 3rd China Vision Science Conference