

YIWEN ZHANG

yiwenzhang@pitt.edu | +1 412-352-5579 | [Website](#)

SUMMARY

Data scientist and psychologist with 5+ years of expertise in behavioral research through experiments, modeling, and large-scale data analysis; Proficient in communicating complex findings to technical and non-technical audiences.

EDUCATION

Ph.D. in Cognitive Psychology, Minor: Quantitative Methods University of Pittsburgh	12/2024 (expected)
M.S. in Cognitive Psychology University of Pittsburgh	2021
B.S. in Psychology (Honored Graduation) Zhejiang University	2019

WORK EXPERIENCE

Quantitative UX Researcher Intern, Meta Platforms, Inc. May 2022 – August 2022

- Led a quantitative research project on users' awareness of WhatsApp features, successfully addressing key inquiries, including feature prioritization, year-by-year trends, user segmentation, and competitor analysis.
- Performed large-scale data analysis including 200+ survey questions on 60 main features from 6000+ users across 5 countries, including conducting t-tests, multiple comparison corrections, logistic regressions, quad chart analysis, and visualization in R.
- Developed an interactive Tableau data dashboard for visualizing and manipulating large-scale survey data, empowering 10+ researchers to assess data with ease and precision.
- Presented insightful read-outs and decks to cross-functional teams, aiding decisions for feature improvement.

RESEARCH EXPERIENCE

Computational Modeling: Human Reinforcement Learning 2022 – present

- Developed and fine-tuned reinforcement learning algorithms, using self-developed code, to model and predict human behavioral data, deepening our understanding of learning and memory mechanisms.
- Extended the application of existing RL models (Collins, 2018) to a long timeframe for learning and collected 24-day learning data from 300 participants, providing a robust dataset for modeling.
- Implemented simulation, model recovery, parameter estimation, and model comparison to optimize the algorithm, uncovering hidden mechanisms and making more precious predictions about human behavior.
- Facilitated seamless remote collaboration between two labs and took a leading role in project management.

Experimental Study: Human Causal Inference ([paper1](#), [paper2](#), [paper3](#)) 2019 – present

- Designed 10+ metrics to measure human learning and decision-making and implemented 5+ impactful experiments (A/B tests) in a smartphone environment, uncovering real-world human behavior.
- Cleaned and analyzed behavioral data, using methods including t-tests, regression models, cluster analysis, and Bayesian modeling in R, to derive meaningful conclusions and drive evidence-based decision-making.
- Published several journal articles and conference proceedings with detailed data visualization.

Experiment Platform Prototype: Smartphone Experiment Platform ([link](#)) 2019 – 2020

- Independently developed a research platform on Google Cloud, enabling remote data collection from 2000+ participants across 5+ experiments and significantly expanding research reach during COVID-19.
- Designed an efficient data structure in Firestore (no-SQL) and implemented 15+ handlers following MVC pattern, using Flask and Vue.js, to successfully manage large-scale data collection with < 1% attrition.
- Developed detailed documentation and a beginner-friendly tutorial for the prototype to assist other researchers.

SIDE PROJECTS

Quantitative Methods Workshop: Bayesian Analysis with R ([link](#)) 2023

- Delivered a methodology talk on Bayesian Analysis with R at the CAMEL talk series, to assist researchers transitioning from frequentist to Bayesian methods. This drew an audience of over 30 researchers.
- Demonstrated Bayesian regression in R to address psychology research questions, including defining priors, interpreting results, model diagnostics, hypothesis testing, and visualization.

SKILLS

- Research methods:** A/B test design, Survey design, Computational Modeling
- Stats expertise:** Mixed Effects Modeling, Bayesian Modeling, Causal Inference, Machine Learning
- Tools:** R, Tableau, SQL, Python, d3.js, SPSS, Vue.js, Flask, Github, Google App Engine, Google Firestore