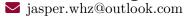
# Haozhe Wang



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## **Education & Employment**

2022.07 - present

- Research Engineer, **Alibaba Group** on Recommender Systems.
  - Research Advisor: *Chao Du* (now at Sea AI).
  - Foster Business Growth by 40% in revenue. Establish tech impact (KDD22, KDD23).

2019.09 - 2022.07

- M.Sc. Computer Science, **ShanghaiTech University**.
  - Supervisor: *Xuming He,* Associate Professor.
  - GPA: 3.83/4.0 (Rank 2%).
  - Honors: Outstanding Graduates of Shanghai. (No. 20221442303013)

2015.09 - 2019.07

- B.Sc. Computer Science, **Wuhan University**.
  - GPA: 3.88/4.0 (Rank 1%)
  - Honors: National Scholarship (in 2017 No. 11959)

## **Research Experience**

I have research experience in various topics, including RL, Robust Generalization, Transformers, Learning to Rank.

### • Rapid and Robust Generalization of RL

KDD 2023

- Adversarial Constrained Bidding via Minimax Regret Optimization. [paper]
  - CCF-A. First & Correspondence Author.
  - TLDR: To make a policy robust and adaptive in black-box adversarial environments, we proposed a minimax game formulation, which guarantees the generalization of the worst-case performance.

**KDD** 2022

- ROI-Constrained Bidding via Curriculum-Guided Bayesian Reinforcement Learning. [paper]
  - CCF-A. <u>First</u> & Correspondence Author.
  - TLDR: To address sparse reward, we use a curriculum learning procedure for efficient policy learning. To make policy adaptive in non-stationary environment, we introduce a Variational Bayes formulation.

**AAMAS** 2020

- Context-aware Task Reasoning for Efficient Meta-Reinforcement Learning. [paper]
  - CCF-B. First Author.
  - TLDR: We highlight the significance of task-exploration in meta-RL. We propose a Variational EM learning framework to jointly learn task-exploration, task-inference and task-execution.

#### · Vision and Language

ICCV 2023

- Grounded Image-Text Matching with Mismatched Relation Reasoning. [paper]
  - CCF-A. Third Author.
  - TLDR: We find that transformer-based vision-language model is limited in length generalization. We proposed a modular program approach which leverages the language structure to avoid the train-test mismatch in length.

### Robust Estimation

Preprint

- Unleashing the Potential of IRLS for Robust Relative Camera Pose Estimation.
  - CVPR 2024 submission. CCF-A. First Author (equal contribution).
  - TLDR: We explore the potential of IRLS for relative camera pose estimation. We propose a principled robust estimation framework that involves less heuristics and hyper-parameter tuning.

#### · Learning to Rank

Work

- Learning Human Preference from Binary and Real-Valued Feedback.
  - Work as a research engineer at Alibaba.
  - Key Concepts & Techniques: Pair-wise Loss, Ordinal Regression.

## **Research Interests**

My current research focus is on Generative AI. Recently I am interested and have surveyed the following directions of LLMs:

- Robust & Trustworthy Generation.
  - Retrival-Augmented Generation (RAG):
    - \* handling retrieval errors;
    - \* effectively using long context (for factual consistency), e.g., addressing 'Lost in the Middle' phenomenon.
  - Factuality & Hallucinations & LLM Alignment, e.g.,
    - \* grounded evidence, citations;
    - \* handling free-form document (texts and tables)
    - \* long-form output, e.g., Long-Form QA.
  - Finetuning & Alignment
    - \* handling biases, e.g., confirmation bias;
    - \* handling alignment black-box, inconsistent or conflicting judgement
    - \* second-order oversight, multi-agent alignment
- Knowledge Editing. When pre-trained LLM contain misinformation, how to inject new facts with entailments?
- LLM Lifelong Learning.

### Misc

Services Peer review experience in KDD 2022, KDD 2023.

English Fluent Writing. Scores: CET4 661/710, CET6 611/710, TOFEL 106/120, GRE 326/340.

Coding Proficiency in PyTorch, TensorFlow and common libraries for ML research.