

Guowei Zhang

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EDUCATION

Tsinghua University

Sep. 2021 - Present

Undergraduate at School of Software

- **Overall GPA:** 3.90/4.0
- **Selected Courses:** Advanced Topics in Linear Algebra (A+), Introduction to Artificial Intelligence (A), Computer Organization Principle (A), Practice of Programming (A), Web Front-end Technology (A), Data Structure (A), Fundamentals of Digital Electronics (A), Physics (A), Introduction to Complex Analysis (A)

University of California, San Diego

Jun. 2024 - Sep. 2024

Visiting Student at Department of Cognitive Science

PUBLICATIONS

(* indicates equal contribution.)

- [1] Haowen Wang*, **Guowei Zhang***, Xiang Zhang, Zeyuan Chen, Haiyang Xu, Dou Hoon Kwark, Zhuowen Tu. Mousterian: Exploring the Equivalence of Generative and Real Data Augmentation in Classification. *Under Review.*
- [2] Yuanchen Ju*, Kaizhe Hu*, **Guowei Zhang**, Gu Zhang, Mingrun Jiang, Huazhe Xu. Robo-ABC: Affordance Generalization Beyond Categories via Semantic Correspondence for Robot Manipulation. *European Conference on Computer Vision, 2024.*

RESEARCH EXPERIENCES

Effectiveness of Generative Data Augmentation

Jun. 2024 - Oct. 2024

Advisor: Zhuowen Tu

Department of Cognitive Science, UCSD

- With the growing power of generative models, it is crucial to reconsider their role in improving image classification.
- Investigated generative data augmentation in image classification by examining models trained solely on the internal dataset, an aspect that remains largely unexplored.
- Provided the quantitative equivalence of using real versus generative data augmentation for image classification in both internal and external settings.

Affordance Generalization for Robot Manipulation

Sep. 2023 - Jan. 2024

Advisor: Huazhe Xu

IIS, Tsinghua University

- Enabling robot manipulation to generalize to out-of-distribution scenarios is key to open-world embodied intelligence.
- Proposed Robo-ABC, a novel framework to extract object interaction experience from human videos and transfer it to novel objects in a zero-shot manner.
- Designed a flexible pipeline that involves retrieving similar objects and capturing semantic correspondence, achieving a significant improvement of 31.6% in the success rate of affordance prediction over previous end-to-end methods.

HONORS & AWARDS

- [1] Science and Innovation Scholarship, Tsinghua University Sep. 2024
- [2] Academic Excellence Scholarship, Tsinghua University Sep. 2023
- [3] Comprehensive Excellence Scholarship, Tsinghua University Sep. 2022

SKILLS

Language: Chinese (native), English (TOEFL 109 [R29/L28/S24/W28], GRE 333 [V163/Q170/W3.5]).

Programming Skills: C/C++, Python, HTML+CSS, L^AT_EX, Assembly Language, Verilog.