ZIQI WEN

Email: ziqiwen@cs.cmu.edu **Webpage:** https://starsky77.github.io/

EDUCATION

University of California, Santa Barbara, *Santa Barbara, CA*
Doctor of Philosophy in Computer Science *Sept. 2024 - May 2029*
Advisor: Prof.Miguel Eckstein

Carnegie Mellon University - School of Computer Science, *Pittsburgh, PA*
Master of Computational Data Science | **GPA:** 3.87/4.0 *Aug. 2022 - May 2024*
Selected Coursework: Large Language Models, Deep Learning System, Cloud Computing, Distribute System

Zhejiang University *Hangzhou, China*
Bachelor of Engineering in Computer Science and Technology | **GPA:** 3.87/4.0 *Aug. 2018 - Jun. 2022*
Minor in Psychology | **Minor GPA:** 4.0/4.0

Imperial College London *Remote*
Data Science Summer School *Jul. 2020 - Aug. 2020*

PUBLICATIONS

Ziqi Wen, Tianqin Li, Tai Sing Lee. *Does resistance to style-transfer equal Global Shape Bias? Measuring network sensitivity to global shape configuration.* ICLR 2024 Workshop Re-Align.

Tianqin Li, **Ziqi Wen**, Yangfan Li, Tai Sing Lee. *Emergence of Shape Bias in Convolutional Neural Networks through Activation Sparsity*. **NeurIPS 2023(Oral)**.

HONORS & AWARDS

NeurIPS 2023 Oral
Outstanding Graduates of Zhejiang University, 2022
Outstanding Graduation Project of Zhejiang University, 2022

TEACHING

University of California, Santa Barbara
CS181A Intro to Computer Vision *Fall 2024*

Carnegie Mellon University,
15386/686 Neural Computation *Spring 2024*

RESEARCH EXPERIENCE

Center for the Neural Basis of Cognition & Computer Science Department, Carnegie Mellon University
Shape and texture bias in computer vision models and their benefits *Feb. 2023 - Present*
Supervisor: Prof.Tai Sing Lee

· **Emergence of Shape Bias in Convolutional Neural Networks through Activation Sparsity**

- Enforcing the sparse coding constraint using a non-differential Top-K operation can lead to the emergence of structural encoding in neurons in convolutional neural networks.
- The emergence of shape bias benefits for different network structures with various datasets on different tasks. (e.g. object recognition, image synthesis)
- Accepted as **NeurIPS 2023(oral)** (top 2%)

· **Does resistance to style-transfer equal Global Shape Bias? Measuring network sensitivity to global shape configuration**

- Show that stylized trained neural network still focus on local feature rather than global shape.
- Provide Distorted Shape Testbench as an alternative measurement of global shape sensitivity, evaluate both human and multiple deep learning models, challenge the conclusions from style transfer-based evaluation.

Human-Computer Interaction Institute, Carnegie Mellon University
Analysis of Online Interpersonal Conflict *Apr. 2023 - Present*
Supervisor: Prof. Robert E. Kraut & Prof. John M. Levine

· Analysis how interpersonal conflict influence the consequent behavior of the users in Wikipedia Talk Page and their participation in the conversations based on the WiKiDetox dataset.

State Key Laboratory of CAD & CG, Zhejiang University
Efficient Neighbor Gathering Methods for Large-scale Point Clouds *Apr. 2021 - Dec. 2021*
Supervisor: Prof. Zhaopeng Cui

· Optimize the neighbor gathering in Dynamic Graph CNN with One-Shot Neural Architecture Search(NAS) and efficient neighbors gathering methods.

· Speeds up the baseline **4 times** and reduces memory cost by **34%** with similar accuracy in the same testing condition. Enlarge the maximum processing capacity of baseline by **20 times**, able to process near million points.