XIANYU CHEN

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PROFESSIONAL SUMMARY

More than four years of research experience in computer vision, including vision & language and few-shot learning. Conducted a study about human attention in vision and language tasks, which led to three top-tier publications. Experience designing a large-scale data collection with Amazon Mechanical Turk.

EDUCATION

University of Minnesota, Twin Cities (GPA: 4.0/4.0)   Sept. 2019 - Now
Ph.D. in Computer Science (anticipated to graduate in 2025)
Advisor: Dr. Catherine Qi Zhao
Areas of Expertise: Computer Vision, Vision and Language, Human Attention

RESEARCH EXPERIENCE

Visual Information Processing Lab, University of Minnesota   Sept. 2019 - Now
Computer Vision, Vision and Language, Machine Learning

- Proposed a large-scale dataset enabling a family of new vision-language tasks and computational methods for understanding and solving real-life problems.
- Designed a new method to complement novel object captioners with human attention features characterizing generally important information independent of tasks.
- Designed a new deep reinforcement learning method to predict scanpaths leading to different performances in visual question answering.

Shenzhen Institutes of Advanced Technology Chinese Academy of Sciences   Aug. 2018 - Dec. 2018
Computer Vision in Low-Shot Object Detection

- Designed a simple but effective solution for continuous low-shot detection based on architecture design (Disentangling), model initialization (Imprinting), and training methodology (Distilling).

SKILL

Programming Language: Python, Matlab, JavaScript, HTML, C/C++, Linux shell

Tools: Pytorch, Tensorflow, Keras, Opencv, Unix/Linux, Git, Scikit-Learn, LaTeX

PUBLICATION (5 OUT OF 18)

- **Xianyu Chen**, Ming Jiang and Qi Zhao. GazeXplain: Learning to Predict Natural Language Explanations of Visual Scanpaths. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2024. (**Oral Paper**)
- **Xianyu Chen**, Ming Jiang and Qi Zhao. Beyond Average: Individualized Visual Scanpath Prediction. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- **Xianyu Chen**, Jinhui Yang, Shi Chen, Louis Wang, Ming Jiang, and Qi Zhao. Every Problem, Every Step, All In Focus: Learning to Solve Real-World Problems with Integrated Attention. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Feb 2024.
- Jinhui Yang*, **Xianyu Chen***, Ming Jiang, Shi Chen, Louis Wang and Qi Zhao. VisualHow: Multimodal Problem Solving. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. (*Co-first authors/Equal contribution)
- **Xianyu Chen**, Ming Jiang and Qi Zhao. Predicting Human Scanpaths in Visual Question Answering. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.