

# YAO (MARC) WANG

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## 🔬 RESEARCH INTEREST

I am now a Postdoc since November 2024 and was a PhD student at the University of Stuttgart since September 2020. For my PhD study, I worked on visual attention modeling for optimization of information visualizations ([https://www.sfbtrr161.de/research/project\\_a07/](https://www.sfbtrr161.de/research/project_a07/)). My first research goal is to acquire large-scale human-like attention data without using eye-tracking equipment for information visualizations. I turn to crowdsourcing approaches (webcam or mouse-clicking) or gaze data synthesis by generative models. My second research goal is to computationally model human visual behavior (saliency map, scanpath) under different tasks (top-down) in information visualizations. My third research goal is to develop a task-driven computational model to optimize information visualization by maximizing metrics (e.g. recallability, gaze uncertainty).

## 🎓 EDUCATION

**University of Stuttgart**, Stuttgart, Germany Nov. 2024 – Now

Postdoc at the Institute for Visualisation and Interactive Systems (VIS). Supervisor: Prof. Andreas Bulling

**Aalto University**, Espoo, Finland Jan. – Apr. 2023

Visiting Ph.D. at Department of Communications and Networking. Supervisor: Prof. Antti Oulasvirta

**University of Stuttgart**, Stuttgart, Germany Sept. 2020 – Nov. 2024

Ph.D. at the Institute for Visualisation and Interactive Systems (VIS). Supervisor: Prof. Andreas Bulling

**Peking University**, Beijing, China 2020

M.Sc. in Computer Software and Technology, GPA **3.50 / 4.0**

**Peking University**, Beijing, China 2017

B.Sc. in Intelligence Science and Technology, GPA **3.34 / 4.0** (Ranking **8 / 35**)

## 📄 HIGHLIGHTED PUBLICATIONS

- **Y. Wang**, W. Wang, A. Abdelhafez, M. Elfares, Z. Hu, M. Bâce, A. Bulling, “SalChartQA: Question-driven Saliency on Information Visualisations”, *Proc. ACM SIGCHI Conference on Human Factors in Computing Systems (CHI 2024)*.
- **Y. Wang**, Y. Jiang, Z. Hu, C. Ruhdorfer, M. Bâce, A. Bulling, “VisRecall++: Analysing and Predicting Recallability of Information Visualisations from Gaze Behaviour”, *Proceedings of ACM on Human-Computer Interaction (PACM HCI)*, 2024.
- **Y. Wang**§, Q. Dai§, M. Bâce, K. Klein, A. Bulling, “Saliency3D: a 3D Saliency Dataset Collected on Screen”, *2024 Symposium on Eye Tracking Research and Applications (ETRA)*, No. 18, pp. 1-9. (§: equal contribution)
- **Y. Wang**, M. Bâce, A. Bulling, “Scanpath Prediction on Information Visualisations”, *IEEE Transactions on Visualization and Computer Graphics*, pp. 1-15, Early Access, 2023.
- **Y. Wang**, C. Jiao, M. Bâce, A. Bulling, “VisRecall: Quantifying Information Visualisation Recallability via Question Answering”, *IEEE Transactions on Visualization and Computer Graphics*, vol. 28, no. 12, pp. 4995-5005, 1 Dec. 2022.
- **Y. Wang**§, M. Koch§, M. Bâce, D. Weiskopf, A. Bulling, “Impact of Gaze Uncertainty on AOIs in Information Visualisations”, in *2022 Symposium on Eye Tracking Research and Applications*, No. 60, pp. 1-6. (§: equal contribution)
- Y. Chen§, **Y. Wang**§, P. Lu, Y. Chen, G. Wang, Large-scale structure from motion with semantic constraints of aerial images. *Chinese Conference on Pattern Recognition and Computer Vision*. 2018: 347-359. (§: equal contribution)

## TEACHING

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### Teaching Assistant

Digital Image Processing (Chinese), Peking University	2019
Machine Learning and Computer Vision for HCI (English), University of Stuttgart	2020, 2021
Mensch-Computer-Interaktion (English, German), University of Stuttgart	2021, 2022
Machine Perception and Learning (English), University of Stuttgart	2022, 2024

## SERVICES

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### Organizing

- Program Committee – IUI 2025
- Workshop and Tutorial Chair – ETRA 2025
- Paper Chair – ETVIS@ETRA 2025
- Workshop Chair – ETRA 2024
- Workshop Organiser – PETMEI@ETRA 2023

### Reviewing

- CHI 2023, 2024, 2025
- Journal of Vision
- VIS 2023
- ISMAR 2023
- ETRA 2021, 2022, 2023, 2024, 2025
- Gaze Workshop – CVPR 2022

## AWARDS & HONORS

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|---|------------|
| • Merit Student   | 2015, 2018 |
| • Merit Student Pacesetter  | 2016       |
| • Schlumberger Scholarship (~\$1,600)   | 2018       |
| • Graduate Scholarship (~\$3,300)   | 2017       |
| • <b>2<sup>nd</sup> prize</b> in 3D Reconstruction Challenge Group, China Virtual Reality and Visualization Industry Technology Innovation Strategic Alliance | Nov. 2019  |

## SKILLS

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- Languages: Mandarin (native), English (C1), German (B1)
- Programming Languages: Python (PyTorch, Keras), MATLAB, C++, JavaScript, Bash
- Knowledge bases: Eye Tracking, Deep Learning, Computer Vision, Information Visualization, Human-Computer Interaction, Natural Language Processing, Git
- Other skills: Drum, Billiard