

Yao Rong

CONTACT INFORMATION

Technical University of Munich
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EDUCATION

Technical University of Munich, Germany, 2023.04 – present

- Ph.D. candidate at TUM School of Computation, Information and Technology
- Adviser: [Prof.Dr. Enkelejda Kasneci](#)
- Area of Study: Human-Centered Technologies for Learning

University of Tübingen, Germany, 2019.09 – 2023.03

- Ph.D. Candidate at Computer Science Department
- Adviser: [Prof.Dr. Enkelejda Kasneci](#)
- Area of Study: Human-Computer Interaction

Technical University of Munich, Germany, 2016.10 – 2019.06

- M.S., Electrical and Computer Engineering
- Thesis Topic: *Real-time Hand Gesture Recognition based on a ToF Camera*
- Area of Study: Automation and Robotics

Tongji University, China & Munich University of Applied Sciences, Germany

2012.09 – 2016.09

- B.Eng., Mechatronics (*Dual degree program*)
- Thesis Topic: *Real-time Hand Gesture Detection and Tracking with OpenCV Library on Android Devices*

RESEARCH INTERESTS

My research interest lies at the intersection of AI systems and human interaction with a specific focus on **human-centered Explainable AI (XAI)**, and **human-AI interaction**. I am interested in the potential of XAI techniques to augment the interpretability, trustworthiness, and user-friendliness of AI systems for end-users. By incorporating user feedback, human cognitive models, and effective model explanation techniques, my aim is to bridge the gap between complex AI algorithms and human interpretability, thereby promoting responsible and transparent deployment of AI across diverse domains.

RESEARCH PUBLICATIONS

- [1] **Rong, Y.***, Wei, X.*, Lin, T., Wang, Y., Kasneci, E. (2023)
[DynStatF: An Efficient Feature Fusion Strategy for LiDAR 3D Object Detection](#)
In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*
- [2] Leemann, T.*, Kirchhof M.*, **Rong, Y.**, Kasneci E., Kasneci, G. (2023)
[When are Post-hoc Conceptual Explanations Identifiable?](#)
In *Proceedings of The 39th Conference on Uncertainty in Artificial Intelligence (UAI)*.
- [3] **Rong, Y.***, Leemann, T.*, Borisov, V., Kaneci, G., & Kasneci, E. (2022)
[Evaluating feature attribution: An information-theoretic perspective](#)
In *Proceedings of the 39th International Conference on Machine Learning (ICML)*
- [4] **Rong, Y.**, Kassautzki, N.-R., Fuhl, W., & Kasneci, E. (2022)
[Where and what: Driver attention-based object detection](#)
In *Proceedings of the ACM on Human-Computer Interaction (PACMHCI)*
- [5] **Rong, Y.**, Castner, N., Bozkir, E., & Kasneci, E. (2022)
[User Trust on an Explainable AI-based Medical Diagnosis Support System](#)
TRAIT at Conference on Human Factors in Computing Systems (CHI-TRAIT)

- [6] **Rong, Y.**, Xu, W., Akata, Z., & Kasneci, E. (2021)
[Human attention in fine-grained classification](#)
 In *2021 British Machine Vision Conference (BMVC)*
- [7] **Rong, Y.**, Han, C., Hellert, C., Loyal, A., & Kasneci, E. (2021)
[Artificial intelligence methods in in-cabin use cases: A survey](#)
IEEE Intelligent Transportation Systems Magazine (ITSM)
- [8] **Rong, Y.**, Akata, Z., & Kasneci, E. (2020)
[Driver intention anticipation based on in-cabin and driving scene monitoring](#)
 In *2020 IEEE 23rd International Conference on Intelligent Transportation Systems (ITSC)*
- [9] Köpüklü, O., Ledwon, T., **Rong, Y.**, Kose, N., & Rigoll, G. (2020)
[Drivermhg: A multi-modal dataset for dynamic recognition of driver micro hand gestures and areal-time recognition framework.](#)
 In *2020 15th IEEE International Conference on Automatic Face and Gesture Recognition (FG)*.
- [10] Fuhl, W., **Rong, Y.**, Motz, T., Scheidt, M., Hartel, A., Koch, A., & Kasneci, E. (2020)
[Explainable online validation of machine learning models for practical applications](#)
 In *2020 25th International Conference on Pattern Recognition (ICPR)*
- [11] Fuhl, W., **Rong, Y.**, & Kasneci, E. (2020)
[Fully convolutional neural networks for raw eye tracking data segmentation, generation, and reconstruction.](#)
 In *2020 25th International Conference on Pattern Recognition (ICPR)*
- [12] Köpüklü, O., **Rong, Y.**, & Rigoll, G. (2019)
[Talking with your hands: Scaling hand gestures and recognition with CNNs.](#)
 In *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops (ICCVW)*
- PREPRINTS &
UNDER REVIEW
- [13] **Rong, Y.**, Leemann, T., Nguyen, T., Fiedler, L., Qian, P., Unhelkar, V., Seidel, T., Kasneci, G., & Kasneci, E. (2023)
[Towards Human-centered Explainable AI: A Survey of User Studies for Model Explanations](#)
under major revision of the IEEE transaction on Pattern Analysis and Machine Intelligence (TPAMI)
- [14] **Rong, Y.**, Qian, P., Unhelkar, V., Kasneci, E. (2023)
[I-CEE: Tailoring Explanations of Image Classifications Models to User Expertise](#)
under review
- [15] **Rong, Y.**, Wang, G., Feng, Q., Liu, N., Liu, Z., Kasneci, E., Hu, X. (2023)
[Efficient GNN Explanation via Learning Removal-based Attribution](#)
under review
- [16] **Rong, Y.**, Özdel, S., Albaba, B.M., Kuo, Y.L., Wang X., Kasneci, E. (2023)
[Gaze-Guided Graph Neural Network for Action Anticipation Conditioned on Intention](#)
under review

RESEARCH EXPERIENCE

Doctoral Researcher, 2023.04 - present

- Enhancing Model Interpretability and Competence Through Human Knowledge Integration
- at the research group [HCTL \(Human-Centered Technologies for Learning\)](#), TU Munich
- Adviser: [Prof.Dr. Enkelejda Kasneci](#)

Joint Research Project, 2023.02 - present

- Explaining Image Classification Models by Estimating Expertise of Users
- with the research group [HCAIR \(Human-Centered AI and Robotics\)](#), Rice University
- Adviser: [Dr. Vaibhav Unhelkar](#)

Visiting Scholar, 2022.09 - 2023.03

- at [D2K Lab, Rice University](#); Adviser: [Dr. Xia Hu](#)
- Efficient Graph Neural Network Explanation Generation

Doctoral Researcher, 2019.09 - 2023.03

- Human Attention in Computer Vision Applications
- at the research group [HCI \(Human-Computer Interaction\)](#), University of Tübingen
- Adviser: [Prof.Dr. Enkelejda Kasneci](#)

Joint Research Project, 2020.09 - 2021.06

- Human Attention in Fine-grained Classification Tasks
- with the research group [EML \(Explainable Machine Learning\)](#), University of Tübingen
- Adviser: [Prof.Dr. Zeynep Akata](#)

Research Project, 2019

- Channel Multiplexing Module Design
- at the research group [Integrated Systems, TU Munich](#)

Research Project, 2018

- Gait Recognition Using a Neural Network Autoencoder
- at the research group [Human-Machine Communication, TU Munich](#)

TEACHING
EXPERIENCE

Teaching Assistant & Guest Lecturer

- Bachelor course on *Technique and Society*, TU Munich, 2023
- Master course on *Human-AI Interaction*, TU Munich, 2023
- Master course on *Human-AI Interaction*, University of Tübingen, 2022
- Master seminar on *Advanced Topics in Human-Computer Interaction*, University of Tübingen, 2021
- Bachelor seminar on *Introductory Topics in Human-Computer Interaction*, University of Tübingen, 2020
- Master course on *Multimodal Human-Computer Interaction*, University of Tübingen, 2020
- Master course on *SystemC*, TU Munich, 2018

Selected Mentorship

- Young Academia Project at TU Munich, Team *Tick Talker*, ongoing
- Isabel Schorr, Mira Trouvain, Master students at TU Munich. *Simulating Human-centered User Experience in XAI using LLMs*, ongoing
- Mohammed Abbas Ansari, Undergraduate student at Jamia Millia Islamia, India. *Semi-supervised Learning Techniques for Scanpath prediction*, ongoing
- Thai Trang Nguyen, Master student at University of Tübingen. *Model Faithfulness and Preconceptions in Subjective Ratings of Explanations*, 2023
- Jacqueline Hirsch, Master student at University of Tübingen. *Improving Interactive Medical Support System Performance with Knowledge Distillation*, 2022
- Naemi Rebecca Kassautzki, Master student at University of Tübingen. *Driver Attention-based Object Detection*, 2022
- David Scheerer, Master student at University of Tübingen. *Faithful Attention Explanation: Verbalizing Classification Decisions Based on Model Explanation*, 2021

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| PROFESSIONAL SERVICE | <p>Conference Organizing Committee</p> <ul style="list-style-type: none"> • Diversity & Accessibility Chair at ACM Symposium on Eye Tracking Research & Applications (ETRA) 2024 • Diversity & Inclusion Chair at ACM Symposium on Eye Tracking Research and Applications (ETRA) 2023 • Diversity & Inclusion Chair at ACM Symposium on Eye Tracking Research and Applications (ETRA) 2022 <p>Student Advisory Service</p> <ul style="list-style-type: none"> • at the Department of Computer Science, University of Tübingen, 2020 – 2022 <p>Reviewer</p> <ul style="list-style-type: none"> • at ICML, NeurIPS, ICLR, AISTATS, TNNLS, WACV, ACM MM, etc. |
| HONORS, AWARDS & GRANTS | <p>Travel grant from Cluster of Excellence - Machine Learning, Tübingen, 2022</p> <p>Master study <i>passed with distinction</i>, TU Munich, 2019</p> <p>First Prize of the College-students Design Competition of Electrical System, DELPHI Technologies, China, 2015</p> <p>Student Scholarships awarded by Tongji University, China, 2013-2015</p> |
| REFERENCES | <p>Enkelejda Kasneci, Professor Department of Educational Sciences Technical University of Munich enkelejda.kasneci@tum.de</p> <p>Gjergji Kasneci, Professor Department of Governance Technical University of Munich gjergji.kasneci@tum.de</p> <p>Xia Hu, Associate Professor Department of Computer Science Rice University xia.hu@rice.edu</p> <p>Vaibhav Unhelkar, Assistant Professor Department of Computer Science Rice University vaibhav.unhelkar@rice.edu</p> |