

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 in building **human-centered AI** models that can capture human intelligence, understand human needs, and provide explanations. I focus on utilizing explainable AI (XAI) techniques to augment the interpretability, trustworthiness, and user-friendliness of AI systems for end-users. My overarching research goal is to design models that facilitate efficient and safe **human-AI collaboration**.

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 minor 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] Leemann, T.*, **Rong, Y.***, Nguyen, T., Kasneci, E., & Kasneci, G. (2023)
[Does My Explanation Win Your Trust Or Is It Something Else? Unveiling Confounding Factors on Trust in XAI](#)
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 *Technology 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

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"> • Conferences: ICML, NeurIPS, ICLR, AISTATS, WACV, ACM MM, CHI, etc. • Journals: TNNLS, T-IV, 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>