ZACHARY WENZHE HU

+86-136-7569-0572 | willowhu98@gmail.com | willow-hu.github.io

EDUCATION

- **Singapore Management University** *Jan 2024 - Nov 2024*
  Ph.D. in Computer Science (Withdrawn) Singapore
  - Area: Human-Machine Collaborative Systems

- **University of Electronic Science and Technology of China** *Sep 2020 - Jun 2023*
  Master of Engineering in Information and Communication Engineering Chengdu, China
  - GPA: 4.0/4.0; Thesis: *Image Captioning Theories and Methods*.

- **University of Electronic Science and Technology of China** *Sep 2016 - Jun 2020*
  Bachelor of Engineering in Electronic Information Engineering Chengdu, China
  - GPA: 3.93/4.0, Ranking: 15/267 (Top 5%)

PUBLICATIONS

[1] Kexue Fu*, Yawen Zhang*, Hiu Man Ho, **Wenzhe Hu**, RAY LC, Qinyuan Lei, Shengdong Zhao. **Crafting Memorable Science Stories: Harnessing the Power of Narrative Peaks in Online Science Videos**. *Under review of ACM Transactions on ComputerHuman Interaction (TOCHI).*

[2] **Wenzhe Hu**, Lanxiao Wang, Linfeng Xu. **Spatial-Semantic Attention for Grounded Image Captioning**. *IEEE International Conference on Image Processing (ICIP), 2022.*

[3] Lanxiao Wang, Hongliang Li, **Wenzhe Hu**, Xiaoliang Zhang, Heqian Qiu, Fanman Meng, Qingbo Wu. **What Happens in Crowd Scenes: A New Dataset About Crowd Scenes for Image Captioning**. *IEEE Transactions on Multimedia, 2023.*

[4] Lanxiao Wang, **Wenzhe Hu**, Heqian Qiu, Chao Shang, Taijin Zhao, Benliu Qiu, King Ngi Ngan, Hongliang Li. **A Survey of Vision and Language Related Multi-Modal Task**. *CAAI Artificial Intelligence Research 1, No. 2, 2022.*

PROJECTS

- **Gaze-Aided Low Vision Assistance** *Jan 2024 - Nov 2024*
  Role: Project leader
  - Aimed at designing a low-vision assistive system, which can assist the user's gaze movements. Afterward, it changed to implement a visual impairment early detection system.
  - Conducted 3 pilot studies and 1 formal data collection study; Implemented a web-based interface for experiments; Arranged a schedule and collected eye movement data from 40 participants.
  - Extracted over 20 eye movement features; Utilized many statistical analytic methods, e.g. ANOVA, to analyze eye movement data; Designed some machine learning and deep learning-based models to classify gaze features with an accuracy of 74%.

- **Image Captioning Theories and Methods** *2023*
  Master's Thesis
  - Proposed three new models for three subtasks in the field of image captioning, including image captioning, grounded image captioning, and crowd-scene captioning. Improved the performances.
  - The thesis received five 'A's in the review.

- **Hierarchical Text Detection and Recognition** *Jan 2023 - Jun 2023*
  Role: Research assistant, Group leader
  - Participated in an OCR competition - Hierarchical Text: Challenge on Unified OCR and Layout Analysis. Developed an end-to-end text spotting model to accomplish the challenge. Achieved the 2nd place in that competition.

SKILLS

- **Languages:** Chinese, English
- **Programming:** Python, Java, HTML/CSS/JavaScript, Matlab
- **Machine Learning:** PyTorch; Model designing and training
- **Research Skills:** Experiment Design, Quantitative analysis

HONORS AND AWARDS

- **Outstanding Student Scholarship (six times)** *2017-2022*
- **Outstanding Graduate of UESTC (Top 10%)** *2020*