

Desen Yuan

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EDUCATION

Master of Communications Engineering

University of Electronic Science and Technology of China 2020.9 - 2023.6

During this period, I achieved a GPA of 2.59/4.0 (71.25/100), received a first-class academic award (top 15%), a second-class scholarship, and was mentored by Qingbo Wu.

Bachelor of Communications Engineering

Chongqing University of Posts and Telecommunications 2016.9 - 2020.6

During this period, I achieved a GPA of 2.96/4.0 (79.67/100), received multiple Science and Innovation Scholarships, won the grand prize in the Chongqing regional competition of the 16th 'Challenge Cup' National College Students' Extracurricular Academic Science and Technology Competition, and a second prize at the national finals. I also received the Chongqing Municipal Government Patent Award and was granted direct admission without examination to pursue a master's degree, a privilege reserved for the top 3% of students across the university. My supervisors are Chenqiang Gao and Jiangping Huang.

EMPLOYMENT

Algorithm Engineer

ASR Microelectronics Co., Ltd. 2023.7 - Now

Video encoding and decoding, low-level computer vision, and the application of large language models (LLMs) on chips.

Algorithm Engineer

China Telecom Beijing Research Institute 2022.4 - 2022.10

My research focuses on attack and defense tasks for visual question answering. I conduct adversarial attacks in scenarios with language biases and in normal contexts to assess and analyze the robustness of models. Additionally, I have proposed a targeted feature-invariant self-distillation adversarial training method.

PUBLICATIONS

Published

1. Desen, Yuan. "Balancing Easy and Hard Distortions: A Multi-Rate Knowledge Distillation Strategy for Blind Image Quality Assessment." ICASSP 2024-2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP Oral). IEEE, 2024.
2. Desen Yuan, Lei Wang, Qingbo Wu, Fanman Meng, King Ngi Ngan, and Linfeng Xu. "Language bias-driven self-knowledge distillation with generalization uncertainty for reducing language bias in visual question answering." Applied Sciences 12, no. 15 (2022): 7588.
3. Desen Yuan, Xiuqing Liu, Qingbo Wu, Hongliang Li, Fanman Meng, King Ngi Ngan, Linfeng Xu. Visual Question Answering Method Based on Counterfactual Thinking. Computer Science 49 (12), 229-235
4. Jiangping Huang, Chunli Xiang, Shuwei Yuan, Desen Yuan, and Xiaorui Huang. "Character-aware convolutional recurrent networks with self-attention for emotion detection on Twitter." In 2019 International Joint Conference on Neural Networks (IJCNN), pp. 1-8. IEEE, 2019.

Preprints

1. Desen, Yuan. "Language bias in visual question answering: A survey and taxonomy." arXiv preprint arXiv:2111.08531 (2021).
2. Lei Wang, Qingbo Wu, Desen Yuan, King Ngi Ngan, Hongliang Li, Fanman Meng, and Linfeng Xu. "Learning with Noisy Low-Cost MOS for Image Quality Assessment via Dual-Bias Calibration." arXiv preprint arXiv:2311.15846 (2023).
3. Lei Wang, and Desen Yuan. "Perceptual Constancy Constrained Single Opinion Score Calibration for Image Quality Assessment." arXiv preprint arXiv:2404.19595 (2024).
4. Lei Wang, and Desen Yuan. "Beyond MOS: Subjective Image Quality Score Preprocessing Method Based on Perceptual Similarity." arXiv preprint arXiv:2404.19666 (2024).
5. Lei Wang, and Desen Yuan. "Causal Perception Inspired Representation Learning for Trustworthy Image Quality Assessment." arXiv preprint arXiv:2404.19567 (2024).