ZUYAO CHEN

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Education

Jan. 2022 – Dec. 2025 Phd student supervised by Prof. Changwen Chen at **The Hong Kong Polytechnic University** (*PolyU*).

Feb. 2025 – Sep. 2025 Visiting scholar at Computer Vision and Geometry Laboratory, **ETH Zürich**, under the supervision of Prof. Marc Pollefeys.

Sep. 2017 – June 2020 Master of Philosophy degree in Computer Science at **University of Chinese Academy of Sciences** (*UCAS*). His research interests include computer vision and deep learning, supervised by Prof. Qingming Huang.

Sep. 2013 – June 2017 Bachelor's degree in Automation at **University of Electronic Science and Technology of China (*UESTC*)**, Chendu, China
major GPA: **89.31**/100 Rank: 4% (**8**/209)

Publications

• **Zuyao Chen**, Jinlin Wu, Zhen Lei, and Changwen Chen. "What Makes a Scene ? Scene Graph-based Evaluation and Feedback for Controllable Generation". preprint.

• **Zuyao Chen**, Jinlin Wu, Zhen Lei, Zhaoxiang Zhang, and Changwen Chen. "GPT4SGG: Synthesizing Scene Graphs from Holistic and Region-specific Narratives". preprint.

• **Zuyao Chen**, Jinlin Wu, Zhen Lei, Zhaoxiang Zhang, Changwen Chen. "Expanding Scene Graph Boundaries: Fully Open-vocabulary Scene Graph Generation via Visual-Concept Alignment and Retention". In ECCV, 2024 (**Oral**, **Best Paper Candidate**).

• **Zuyao Chen**, Qianqian Xu, Runmin Cong, and Qingming Huang. "Global Context-Aware Progressive Aggregation Network for Salient Object Detection". In AAAI, 2020 (**Oral**).

• **Zuyao Chen**, Runmin Cong, Qianqian Xu, and Qingming Huang. "Depth Potentiality-Aware Gated Attention Network for RGB-D Salient Object Detection". IEEE Transactions on Image Processing (IEEE TIP, Highly Cited Papers), 2021. (**ESI Highly Cited Paper**)

• Qianqian Xu, Zhiyong Yang, **Zuyao Chen**, Yangbangyan Jiang, Xiaochun Cao, Qingming Huang, and Yuan Yao. "Deep Partial Rank Aggregation for Personalized Attributes". In AAAI, 2021.

Academic activities

• The winner of the STAR Challenge 2022 (ECCV workshop)

• Reviewer of CVPR, ICPR, Signal and Image Processing, Neural Processing Letters, Multimedia Systems, IEEE TCSVT

• Teaching Assistant of COMP2011, COMP2432, COMP5425, COMP5434, COMP5571, COMP6710

Research Experiences & Projects

Jun. 2020 – Dec. 2021 **Full-time Engineer at SMartMore**
deep learning algorithms training, inference *Shenzhen*
responsible for industrial products' defect detection, and build the tool-chains including training semantic segmentation, model inference acceleration via quantization, high-performance tools via CUDA.

Dec. 2019 – June.2020 **Intern at the SLAM group, Megvii**
working on deep learning *Beijing*
build a codebase for semantic segmentation, especially human segmentation for robots' obstacle avoidance, including training the network using distributed machines and speed up the inference stage via CUDA and TensorRT.

Sep.2019– Nov.2019 **Depth Potentiality-Aware Gated Attention Network for RGB-D Salient Object Detection**
first author, advised by Prof. Qingming Huang *ICT, UCAS*
This work aims at addressing the two main problems in RGB-D Salient Object Detection (SOD), i.e., how to efficiently integrate multi-modal information, and how to prevent the contamination from the unreliable depth map. The proposed approach outperforms 15 state-of-the-art methods on 8 benchmark datasets.

Jun.2019– Sep.2019 **Global Context-Aware Progressive Aggregation Network for Salient Object Detection**
first author, advised by Prof. Qingming Huang *ICT, UCAS*
We propose a novel network for SOD, which integrates low-level features, high-level features, and global context information in an interweaved way. Moreover, we introduce the global context information in a parallel way, which benefits the deducing of relationship among different salient regions and alleviates the feature dilution process. The proposed method outperforms 12 state-of-the-arts on 6 benchmark datasets.

Nov.2018– Dec.2018 **Intern at the Computer Vision and Multimedia Lab of JD AI Research**
advised by Dr. Hailing Shi *Beijing*
• Became familiar with the algorithms and test protocols of face recognition, reproduced the best current (2018) recognition algorithms(ArcFace, CosFace, etc.), achieving 99.80% accuracy on LFW.
• Wrote a patent for face data cleaning and applied it to the integration of face datasets collected from unmanned supermarkets.

Awards

2024 – 2024 **RSAP** & **ICRF** scholarships (HK PolyU)
2022 – 2025 Postgraduate scholarship
2017 – 2017 **Excellent Bachelor's Thesis Award**
2017 – 2017 **Outstanding Graduates** of *UESTC*
2016 – 2016 **Best Award for the Embedded Hardware Design** in the RoboMasters Summer Camp of SZ DJI Technology Co., Ltd.
2015 – 2016 **Runner-up** and **Best Technology Award** in the National trials for the 15th ABU Robocon Contest
2014 – 2015 **the First Prize** in the 10th Freescale Cup Intelligent Car Racing Competition for Undergraduates, west zone, China
2015 – 2016 **National Inspirational Scholarship**
2013 – 2014 **the First-class Scholarship**

Skills

familiar with C/C++, Python, Linux, LaTeX
familiar with deep learning frameworks like Caffe, PyTorch and CUDA programming
experience in hardware and software design