

QI CHEN

 [Homepage](#) ·  [Google Scholar](#) · Citations>1,100 · H-index=14

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ABOUT ME

Dr. Qi Chen is currently a postdoctoral research fellow at the Australian Institute for Machine Learning (AIML), the University of Adelaide, working with *Prof. Anton van den Hengel* and *A/Prof. Qi Wu*. He obtained his PhD in 2024 from the University of Adelaide (92th in 2024 U.S. News), under the supervision of *A/Prof. Qi Wu* and *Asst. Prof. Yuankai Qi*. He received his Master's and Bachelor's degrees from South China University of Technology (SCUT) in China (187th in 2024 U.S. News) under the supervision of *Prof. Jian Chen* and *Prof. Mingkui Tan*.

Dr. Chen focuses mainly on Controllable Generative AI for Multi-modality, (Multimodal) Large Language Models (LLMs), and Multimodal AI for Real-world Applications/Domains (e.g., Medicine, Architecture, and the Internet). He has over 20 peer-reviewed publications, most in flagship journals/conference proceedings, including IEEE-TPAMI/TIP/TMM, CVPR, NeurIPS, ICCV, etc. His research has attracted over 1,100 citations with an H-index of 14 (Google Scholar). He also serves as a reviewer for top-tier journals/conference proceedings, including Nature Communications, IEEE-TPAMI, IJCV, CVPR, ICML, NeurIPS, ICLR, ICCV, ECCV, etc.

EDUCATION

The University of Adelaide, Australia 2021 – 2024

PhD candidate at the School of Computer Science, Supervisor: *A/Prof. Qi Wu* & *Asst. Prof. Yuankai Qi*

South China University of Technology (SCUT), China 2017 – 2020

Master student at the School of Software Engineering, Supervisor: *Prof. Jian Chen* & *Prof. Mingkui Tan*

South China University of Technology (SCUT), China 2013 – 2017

Bachelor student at the School of Software Engineering

INTERNSHIP AND WORK EXPERIENCE

Postdoctoral Researcher 2024 – Present

Australian Institute for Machine Learning (AIML), The University of Adelaide

Project: Close the Gap between Machine and Human

Work with *Prof. Anton van den Hengel* and *A/Prof. Qi Wu*

Research Assistant 2020 – 2022

Guangdong Artificial Intelligence and Digital Economy Laboratory (Pazhou Lab)

Project: Fundamental Theories and Core Algorithms of AI

Work with *Prof. Yuanqing Li* (IEEE Fellow) & *Prof. Mingkui Tan*

10 BEST PUBLICATIONS (* EQUAL CONTRIBUTION; † CORRESPONDING AUTHOR))

[Foundation] Controllable Generative AI for Multi-modality

This expands generative AI to handle diverse modalities (text, image, audio, etc.) with enhanced control and adaptability, laying the foundation for multimodal AI systems with both recognition and generation capabilities.

1. Learning Distinct and Representative Modes for Image Captioning

Qi Chen, Chaorui Deng, Qi Wu

Advances in Neural Information Processing Systems (NeurIPS), 2022. (Top-tier Conference on Machine Learning)

2. **V2C: Visual Voice Cloning**

Qi Chen, Mingkui Tan, Yuankai Qi, Jiaqiu Zhou, Yuanqing Li, Qi Wu

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022. (Top-tier Conference on Computer Vision)

3. **Scripted Video Generation with a Bottom-up Generative Adversarial Network**

Qi Chen, Qi Wu, Jian Chen, Qingyao Wu, Anton van den Hengel, Mingkui Tan

IEEE Transactions on Image Processing (TIP), 2020. (Impact factor=10.8, Top-tier Journal on Computer Vision & Pattern Recognition)

4. **G-NeRF: Geometry-enhanced Novel View Synthesis from Single-View Images**

Zixiong Huang*, **Qi Chen***, Libo Sun, Yifan Yang, Naizhou Wang, Mingkui Tan, Qi Wu

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024. (Top-tier Conference on Computer Vision)

[Intelligence] (Multimodal) Large Language Models (LLMs)

This focuses on enhancing the intelligence of multimodal AI systems through perception, understanding, reasoning, and autonomous quality assessment and improvement.

1. **Weak-eval-Strong: Evaluating and Eliciting Lateral Thinking of LLMs with Situation Puzzles**

Qi Chen, Bowen Zhang, Gang Wang, Qi Wu

Advances in Neural Information Processing Systems (NeurIPS), 2024. (Top-tier Conference on Machine Learning)

2. **Prompt Switch: Efficient CLIP Adaptation for Text-Video Retrieval**

Chaorui Deng*, **Qi Chen***, Pengda Qin, Da Chen, Qi Wu

International Conference on Computer Vision (ICCV), 2023. (Top-tier Conference on Computer Vision)

3. **Improving Video Moment Retrieval by Auxiliary Moment-Query Pairs with Hyper-Interaction**

Runhao Zeng, Yishen Zhuo, Jialiang Li, Yunjin Yang, Huisi Wu, **Qi Chen**[†], Xiping Hu, Victor C. M. Leung

IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2024. (Impact factor=8.3, Top-tier Journal on Computer Graphics & Multimedia)

[Application] Multimodal AI for Real-world Domains

This focuses on spanning multimodal AI systems across various domains, including architectural design, medical diagnosis, and website assistance.

1. **Intelligent Home 3D: Automatic 3D-House Design from Linguistic Descriptions Only**

Qi Chen, Qi Wu, Rui Tang, Yuhan Wang, Shuai Wang, Mingkui Tan

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020. (Top-tier Conference on Computer Vision) (Google citation: >35)

2. **WebVLN: Vision-and-Language Navigation on Websites**

Qi Chen, Dileepa Pitawela, Chongyang Zhao, Gengze Zhou, Hsiang-Ting Chen, Qi Wu

Association for the Advancement of Artificial Intelligence (AAAI), 2024. (Top-tier Conference on Artificial Intelligence)

3. **PairAug: What Can Augmented Image-Text Pairs Do for Radiology?**

Yutong Xie*, **Qi Chen***, Sinuo Wang, Minh-Son To, Iris Lee, Ee Win Khoo, Kerolos Hendy, Daniel Koh, Yong Xia, Qi Wu

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024. (Top-tier Conference on Computer Vision)

📖 OTHER PUBLICATIONS (* EQUAL CONTRIBUTION; [†] CORRESPONDING AUTHOR)

Peer-refereed Conference Proceedings

1. **Act Like a Radiologist: Radiology Report Generation across Anatomical Regions**

Qi Chen, Yutong Xie, Biao Wu, Xiaomin Chen, James Ang, Minh-Son To, Xiaojun Chang, Qi Wu

Proceedings of the Asian Conference on Computer Vision (ACCV), 2024. (Oral, 17.4% of accepted papers, 5.6% of submitted papers)

2. **Attention-driven GUI Grounding: Leveraging Pretrained Multimodal Large Language Models without Fine-Tuning**

Haiming Xu*, **Qi Chen***, Lei Wang, Lingqiao Liu

Association for the Advancement of Artificial Intelligence (AAAI), 2025. (Top-tier Conference on Artificial Intelligence)

3. **R-GAN: Exploring Human-like Way for Reasonable Text-to-Image Synthesis via Generative Adversarial Networks**
Yanyuan Qiao, **Qi Chen**, Chaorui Deng, Ning Ding, Yuankai Qi, Mingkui Tan, Xincheng Ren, Qi Wu
ACM International Conference on Multimedia (ACM MM), 2021. (Top-tier Conference on Multimedia)
4. **Contrastive Neural Architecture Search with Neural Architecture Comparators**
Yaofo Chen, Yong Guo, **Qi Chen**, Minli Li, Yaowei Wang, Wei Zeng, Mingkui Tan
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021. (Top-tier Conference on Computer Vision) ([Google citation: >70](#))
5. **Closed-loop Matters: Dual Regression Networks for Single Image Super-Resolution**
Yong Guo, Jian Chen, Jingdong Wang, **Qi Chen**, Jiezhong Cao, Zeshuai Deng, Yanwu Xu, Mingkui Tan
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020. (Top-tier Conference on Computer Vision) ([Google citation: >400](#))
6. **NAT: Neural Architecture Transformer for Accurate and Compact Architectures**
Yong Guo, Yin Zheng, Mingkui Tan, **Qi Chen**, Jian Chen, Peilin Zhao, Junzhou Huang
Advances in Neural Information Processing Systems (NeurIPS), 2019. (Top-tier Conference on Machine Learning) ([Google citation: >90](#))
7. **Dynamic Extension Nets for Few-shot Semantic Segmentation**
Lizhao Liu, Junyi Cao, Minqian Liu, Yong Guo, **Qi Chen**, Mingkui Tan
ACM International Conference on Multimedia (ACM MM), 2020. (Top-tier Conference on Multimedia) ([Google citation: >50](#))
8. **Modular graph attention network for complex visual relational reasoning**
Yihan Zheng, Zhiquan Wen, Mingkui Tan, Runhao Zeng, **Qi Chen**, Yaowei Wang, Qi Wu
Proceedings of the Asian Conference on Computer Vision (ACCV), 2020.

Peer-refereed Journal Publications

1. **Auto-embedding Generative Adversarial Networks for High Resolution Image Synthesis**
Yong Guo*, **Qi Chen***, Jian Chen, Qingyao Wu, Qinfeng Shi, Mingkui Tan
IEEE Transactions on Multimedia (TMM), 2019. ([Impact factor=8.4](#), Top-tier Journal on Multimedia) ([Google citation: >80](#))
2. **Auto-3D-House Design from Structured User Requirements**
Mingkui Tan*, **Qi Chen***, Zixiong Huang, Qi Wu, Yuanqing Li, Jiaqiu Zhou
Machine Intelligence Research (MIR), 2024. (Early Access) ([Impact factor=6.4](#))
3. **Towards Accurate and Compact Architectures via Neural Architecture Transformer**
Yong Guo, Yin Zheng, Mingkui Tan, **Qi Chen**, Zhipeng Li, Jian Chen, Peilin Zhao, Junzhou Huang
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2021. ([Impact factor=20.8](#), Top-tier Journal on Computer Vision & Pattern Recognition) ([Google citation: >35](#))
4. **Towards Lightweight Super-Resolution with Dual Regression Learning**
Yong Guo, Mingkui Tan, Zeshuai Deng, Jingdong Wang, **Qi Chen**, Jiezhong Cao, Yanwu Xu, Jian Chen
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2024. ([Impact factor=20.8](#), Top-tier Journal on Computer Vision & Pattern Recognition)

Preprints

1. **A Survey of Medical Vision-and-Language Applications and Their Techniques**
Qi Chen, Ruoshan Zhao, Sinuo Wang, Vu Minh Hieu Phan, Anton van den Hengel, Johan Verjans, Zhibin Liao, Minh-Son To, Yong Xia, Jian Chen, Yutong Xie, Qi Wu
arXiv:2411.12195
2. **Likelihood-Based Text-to-Image Evaluation with Patch-Level Perceptual and Semantic Credit Assignment**
Qi Chen, Chaorui Deng, Zixiong Huang, Bowen Zhang, Mingkui Tan, Qi Wu
arXiv:2308.08525
3. **Attention-guided Context Feature Pyramid Network for Object Detection**
Junxu Cao*, **Qi Chen***, Jun Guo, Ruichao Shiu

arXiv:2005.11475 (Google citation: >130)

4. **Efficient Response Selection for Fine-Tuning Large Language Models via Alignment Score Estimation**
Xuan Ren*, Qi Chen*, Lingqiao Liu
5. **Dual Reconstruction Nets for Image Super-resolution with Gradient Sensitive Loss**
Yong Guo, Qi Chen, Jian Chen, Junzhou Huang, Yanwu Xu, Jiezhong Cao, Peilin Zhao, Mingkui Tan
arXiv:1809.07099
6. **InfiniMotion: Mamba Boosts Memory in Transformer for Arbitrary Long Motion Generation**
Zeyu Zhang, Akide Liu, Qi Chen, Feng Chen, Ian Reid, Richard Hartley, Bohan Zhuang, Hao Tang
arXiv:2407.10061
7. **Source-Free Unsupervised Domain Adaptation with Hypothesis Consolidation of Prediction Rationale**
Yangyang Shu, Xiaofeng Cao, Qi Chen, Bowen Zhang, Ziqin Zhou, Anton van den Hengel, Lingqiao Liu
arXiv:2402.01157
8. **Xlip: Cross-modal Attention Masked Modelling for Medical Language-image Pre-training**
Biao Wu, Yutong Xie, Zeyu Zhang, Minh Hieu Phan, Qi Chen, Ling Chen, Qi Wu
arXiv:2407.19546
9. **A Thorough Comparison Study on Adversarial Attacks and Defenses for Common Thorax Disease Classification in Chest X-rays**
Chendi Rao, Jiezhong Cao, Runhao Zeng, Qi Chen, Huazhu Fu, Yanwu Xu, Mingkui Tan
arXiv:2003.13969

Chinese Journal Publications and Patents

1. **Large Language Model-guided Video-text Retrieval Data Optimization**
Runhao Zeng, Jialiang Li, Yishen Zhuo, Haihan Duan, Qi Chen[†], Xiping Hu
Journal of Image and Graphics, 2024
2. **A Review on Deep Adversarial Visual Generation**
Mingkui Tan, Shoukai Xu, Shuhai Zhang, Qi Chen
Journal of Image and Graphics, 2021
3. **Quantitative Investment Trend Prediction System Based on Deep Learning Algorithms**
Qi Chen, Jian Chen
2018SR766183, published

♡ HONORS AND AWARDS

Research Grants

National Natural Science Foundation of China (about A\$117,500) (CI) 2021 – 2024

Awards

Australian Government-funded Research Training Program (RTP) Scholarship
(~ 300 international students globally each year) 2021 – 2024

Golden Award of CICSIC Challenge (International Track)
(Awarded to 50 teams, top 0.1% globally) 2024

First-class Scholarship of South China University of Technology (SCUT)
(Top 1% students, annually) 2017 – 2020

⚙️ PROFESSIONAL ACTIVITIES

Conference Reviews

[Computer Vision]

CVPR 2020-2025, ICCV 2021/2023, ECCV 2020/2022/2024, WACV 2022-2025, BMVC 2022/2023, ACCV 2022/2024

[Machine Learning]

NeurIPS 2022-2024, ICML 2022-2024, ICLR 2024/2025, AISTATS 2025

[Others]

AAAI 2020-2024, MICCAI 2024, SIGGRAPH2024

Journal Reviews

Nature Communications

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

International Journal of Computer Vision (IJCV)

Pattern Recognition (PR), etc.

Presentations

Weak-eval-Strong: Evaluating and Eliciting Lateral Thinking of LLMs with Situation Puzzles

Venue: *NeurIPS 2024* (coming soon) Dec 2024

Act Like a Radiologist: Radiology Report Generation across Anatomical Regions

Venue: *ACCV 2024 Oral Presentation* (coming soon) Dec 2024

G-NeRF: Geometry-enhanced Novel View Synthesis from Single-View Images

Venue: *AIML Showcase event, the National Wine Centre, Adelaide* Oct 2024

Webvln: Vision-and-Language Navigation on Websites

Venue: *AAAI 2024* Feb 2024

Multimodal Approaches and Applications in Vision, Language and Audio

Venue: *2023 Global Young Scholars' Forum at CUHK-Shenzhen* Dec 2023

Prompt Switch: Efficient CLIP Adaptation for Text-Video Retrieval

Venue: *ICCV 2023* Oct 2023

Learning Distinct and Representative Modes for Image Captioning

Venue: *AIML Showcase event, Adelaide Oval* Aug 2022

Intelligent Home 3D: Automatic 3D-House Design from Linguistic Descriptions Only

Venue: *CSIG-Guangdong Province CVPR 2020 Online Academic Seminar* May 2020

NAT: Neural Architecture Transformer for Accurate and Compact Architectures

Venue: *NeurIPS 2019* Dec 2019

TEACHING EXPERIENCE

Teaching Assistant 2023 Semester 1

Course: Advanced Topics in Computer Science

School of Computer and Mathematical Sciences, The University of Adelaide

Teaching Assistant 2022 Trimester 2

Course: Artificial Intelligence and Machine Learning Research Project Part B

School of Computer and Mathematical Sciences, The University of Adelaide

Teaching Assistant 2022 Trimester 1

Course: Artificial Intelligence and Machine Learning Research Project Part A

School of Computer and Mathematical Sciences, The University of Adelaide

STUDENT SUPERVISION

Jinquan Guan (Ph.D. student) of SCUT

Achievement: One paper has been submitted to International Journal of Surgery

Position: Co-supervisor, Instructor: Prof. Jian Chen

Sep 2024 – present

Zixiong Huang (Master student) of SCUT

Achievement: One paper has been accepted by CVPR 2024

Position: Co-supervisor, Instructor: Prof. Mingkui Tan

Sep 2022 – present

Xiaomin Chen (Master student) of SCUT

Achievement: One paper has been accepted by NeurIPS 2024 workshop

Position: Co-supervisor, Instructor: Prof. Jian Chen

Sep 2022 – present

Jialiang Li (Master student) of Shenzhen MSU-BIT University

Achievement: One paper has been accepted by Journal of Image and Graphics 2024

Position: Co-supervisor, Instructor: A/Prof. Runhao Zeng

Sep 2022 – present

Yishen Zhuo (Master student) of Shenzhen MSU-BIT University

Achievement: One paper has been submitted to TCSVT

Position: Co-supervisor, Instructor: A/Prof. Runhao Zeng

Sep 2022 – present

Jiaqiu Zhou (Master student) of SCUT

Achievement: One paper has been accepted by Machine Intelligence Research

Position: Co-supervisor, Instructor: Prof. Mingkui Tan

Sep 2019 – Jun 2022

REFERENCES

1. Anton van den Hengel, Professor, University of Adelaide; ✉ anton.vandenhengel@adelaide.edu.au
2. Qi Wu, Associate Professor, University of Adelaide; ✉ qi.wu01@adelaide.edu.au
3. Mingkui Tan, Professor, South China University of Technology; ✉ mingkuitan@scut.edu.cn
4. Yuankai Qi, Assistant Professor, Macquarie University; ✉ qykshr@gmail.com
5. Jian Chen, Professor, South China University of Technology; ✉ ellachen@scut.edu.cn
6. Yutong Xie, Assistant Professor, MBZUAI; ✉ yutong.xie678@gmail.com