# Qian Yang

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## EDUCATION

**Mila - Quebec AI Institute & Université de Montréal** 2023.09 – Present
Ph.D. in Computer Science

- Research topics: Multi-modal Learning, Explainable deep learning
- Supervisor: Prof. Aishwarya Agrawal

**Harbin Institute of Technology, Shenzhen** 2020.09 – 2023.03
MSc in Computer Science and Technology

- Research topics: Multi-modal Learning, Explainable Question Answering
- Supervisor: Prof. Baotian Hu
- Thesis: Fine-grained Alignment for Explainable Multi-modal Inference

**University of Electronic Science and Technology of China** 2016.09 – 2020.06
BEng in Computer Science and Technology

- CGPA: 3.73/4.0 (top 10%)
- Thesis: Event Extraction based Text Summarization

## PUBLICATIONS

- Le Zhang, **Qian Yang**, Aishwarya Agrawal. Assessing and Learning Alignment of Unimodal Vision and Language Models. *The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2025*, (CVPR ***Highlight***) 2025.
- **Qian Yang**, Weixiang Yan, Aishwarya Agrawal. Enhancing Multi-Agent Multi-Modal Collaboration with Fine-Grained Reward Modeling. *NeurIPS 2024 Workshop on Adaptive Foundation Models*, 2024.
- Yuchen Tian, Weixiang Yan, **Qian Yang**, ..., Dawn Song. CodeHalu: Investigating Code Hallucinations in LLMs via Execution-based Verification. In *Proceedings of The 39th Annual AAAI Conference on Artificial Intelligence*, (AAAI) 2025.
- **Qian Yang**, Weixiang Yan, Aishwarya Agrawal. Decompose and Compare Consistency: Measuring VLMs' Answer Reliability via Task-Decomposition Consistency Comparison. In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*, (EMNLP) 2024.
- Le Zhang, Yihong Wu, **Qian Yang**, Jianyun Nie. Exploring the Best Practices of Query Expansion with Large Language Models. *Findings of the Association for Computational Linguistics: EMNLP*, 2024.
- **Qian Yang**, Qian Chen, Wen Wang, Baotian Hu, Min Zhang. Enhancing Multi-modal and Multi-hop Question Answering via Structured Knowledge and Unified Retrieval-Generation. In *Proceedings of the 31st ACM International Conference on Multimedia*, pages 5223-5234, (ACM MM) 2023.
- **Qian Yang**, Yunxin Li, ..., Min Zhang. Chunk-aware Alignment and Lexical Constraint for Visual Entailment with Natural Language Explanations. In *Proceedings of the 30th ACM International Conference on Multimedia*, pages 3587-3597, (ACM MM) 2022.
- Yunxin Li, **Qian Yang**, Qingcai Chen, ..., Lin Ma. Fast and Robust Online Handwritten Chinese Character Recognition with Deep Spatial & Contextual Information Fusion Network.

*IEEE Transactions on Multimedia*, vol. 25, pp. 2140-2152, 2022.

### Preprints

- **Qian Yang***, Shivam Chandhok*, ..., Leonid Sigal, Aishwarya Agrawal. Learning What Matters: Prioritized Concept Learning via Relative Error-driven Sample Selection (Under Review)

## ACADEMIC INTERNSHIPS

**Alibaba DAMO Academy, Hangzhou, China** *Advisor: Dr. Wen Wang, Dr. Qian Chen*
Enhancing Multi-modal Multi-hop QA with Structured Knowledge *2022.05 – 2022.10*

- Designed an entity-centered fusion model to align cross-modal information using structured knowledge for facilitating connections between different modalities, along with a unified retrieval-generation method to integrate intermediate retrieval results for answer generation; the paper is published in *ACM Multimedia 2023*.

## AWARDS AND SCHOLARSHIPS

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| DIRO Excellence Scholarship, University of Montreal (5,000 CAD) | 2025 |
| Professor Cho Diversity Scholarship, MILA (1,500 CAD) | 2025 |
| DIRO Excellence Scholarship, University of Montreal (3,000 CAD) | 2024 |
| The Second Prize Scholarship, HIT, Shenzhen (7,000 RMB) | 2021 – 2022 |
| National Encouragement Scholarship (Top 10%, 5,000 RMB) | 2019 |
| The First Prize Scholarship, UESTC (Top 20%, 1,000 RMB) | 2016 – 2020 |

## PROFESSIONAL ACTIVITIES

**CONFERENCE REVIEWER**

- Outstanding Reviewer of CVPR 2025
- Reviewer of CVPR 2024, ECCV 2024, AAAI 2024, ACM Multimedia 2023, 2024, COLING 2022

**TEACHING ROLES**

- IFT 6135 - Representation Learning (Autumn 2024), University of Montreal
- Mathematical Logic (Spring 2021), Harbin Institute of Technology, Shenzhen
- Algorithms (Autumn 2020), Harbin Institute of Technology, Shenzhen

## TECHNICAL SKILLS

- Programming Languages: Python, C/C++, MATLAB, SQL
- Deep Learning Frameworks: PyTorch, TensorFlow
- Natural Languages: Mandarin (native), English (TOEFL: 99/120, R:26, L:25, S:22, W:26)