



Yanhui Guo

 [HomePage](#)

 gyhui.liam@gmail.com

 +1-289-309-8828

 [Linkedin](#)

EDUCATION BACKGROUND

(Ph.D.) McMaster University

Hamilton, ON, Canada

Image/Video Restoration, 2D/3D Computer Vision, LLM and Generative AI

Jan.2020 - Jan.2024

(M.S.) Huazhong University of Science and Technology

Wuhan, China

Artificial Intelligence and Automation

Sep.2017 - June.2019

9+ YOE in Academia and Industry in Machine Learning & Deep Learning & Computer Vision

PROFESSIONAL EXPERIENCE

5+ YOE Industry in Deep Learning, Computer Vision & NLP and Recommendation

Amazon, US

Seattle, United States

(Full-time) Applied Scientist

May. 2025- Present

- Building ranking models and running A/B tests to enhance the search experience for global customers in Amazon's emerging stores.
- Leveraging LLMs to reduce irrelevant results in a multi-stage search framework.
- Developing foundational personalization models based on customer behavior to enable personalized search experiences.
- Creating substitute recommendation pipelines using multilingual, multimodal LLMs to improve shopping experiences across different languages.
- Working on Agentic AI to develop image and video creation tools for marketing purposes.

Noah's Ark Lab (AI Lab), Canada

Toronto, Canada

(Full-time) Researcher

Sep. 2023- April. 2024

- Research on multi-view consistent inpainting algorithms.
- Research on 4D dynamic scene editing with Gaussian splatting.
- Research on text-to-image and text-to-video diffusion models.

Amazon, US

Seattle, United States

(Internship) Applied Scientist

June. 2023- Sep. 2023

- Research on large language models and prompt tuning.
- One paper on continual prompt tuning (Submitted to NAACL 2024).
- Developed attribute extraction models for product recommendation on AWS SageMaker.

Noah's Ark Lab (AI Lab), Canada

Toronto, Canada

(Full-time) Researcher

Feb. 2022- June. 2023

- Research on 3D shape reconstruction and video understanding.
- One paper on text-to-driven 3D generation (NeurIPS 2023, [Paper Link](#)).
- Won runner-up in the ActivityNet Challenge (CVPR2022 Workshop, [Video Link](#)).

NetEase Games, AI Lab

Hangzhou, China

(Full-time) Artificial Intelligence Engineer

July. 2019-Jan. 2020

- Developed a deep motion generation model for automatic 3D digital human animation.
- Worked on feature engineering and product recommendation models based on language and vision features.

The Hong Kong Polytechnic University

Hong Kong, China

(Full-time) Research Assistant in ME

Jan. 2019-July. 2019

- Worked on the robotic system of micro-drones and navigation algorithms.
- Developed dynamic obstacle avoidance algorithms for flying robots.

Tencent, Game AI Group
(*Internship*) *Machine Learning Engineer*

Shenzhen, China
Apr. 2018-July. 2018

SELECTED RESEARCH PROJECTS

Conventional Multi-Constraint Multi-Item Recommender System *Amazon, Seattle, US*

- Research on building a recommendation system that allows customers to put multiple shopping requirements in a single query and deliver good recommendation bundles to the customers.

Universal User Representations for Personalization *Amazon, Seattle, US*

- Conducting research to develop an LLM-based universal representation of customer preferences for products, enabling efficient transfer learning across multiple tasks in recommendation.

Continual Prompt Tuning for Large Language Models *Amazon, Seattle, US*

- Research on the application of prompt tuning for LLMs. We developed a queue-based continual prompt tuning method and text-based attribute extraction models for product recommendation.

Text-driven Real-world Mesh Retexturing *Noah's Ark Lab, Canada*

- Developed an easy-to-use tool to create and edit 3D objects from real-world images and a text-driven algorithm for mesh retexturing. (Two US patents, NeurIPS 2023)

AI Medical Assistant with Large Language Models (LLMs) *McMaster Children's Hospital*

- Turned an LLM (GPT 4) into a helpful medical assistant by giving customized demonstrations as prompts, which can help doctors summarize the diagnosis and treatment records of patients.

Temporal Action Localization in Untrimmed Videos for Video Search *Noah's Ark Lab, Canada*

- Developed efficient temporal action localization models and model blending methods for the action localization task for video search. (One US patent, winning second prize in CVPRW 2022)

PUBLICATIONS

Computer Vision

- [1] **Yanhui Guo**, Chenghuan Guo, Yan Gao, Yi Sun, "Learning by Taking Notes: Memory-Guided Continual Learning for Generative Multimodal Models" (**ICCV2025 MMFM4**)
- [2] Binh M Le, ... **Yanhui Guo** and etc., "QID: Efficient query-informed ViTs in data-scarce regimes for OCR-free visual document understanding" (**CVPR2025 MULA**)
- [3] **Yanhui Guo**, Fangzhou Luo, Xiaolin Wu. " Learning Degradation Independent Representations for Camera ISP Pipelines", (**CVPR2024**) ([Paper Link](#)).
- [4] Fangzhou Luo, **Yanhui Guo**, and Xiaolin Wu. "AND: Adversarial Neural Degradation for Learning Blind Image Super-Resolution", (**NeurIPS 2023**) ([Paper Link](#)).
- [5] **Yanhui Guo**, Fangzhou Luo, Shaoyuan Xu. "Self-Supervised Face Image Restoration with a One-Shot Reference", (**ICASSP 2024, Oral**) ([Paper Link](#)).
- [6] **Yanhui Guo**, Peng Dai, Juwei Lu and Li Cheng. "Refining Implicit Neural Action Field for Temporal Action Localization", (**A US patent, CVPR Workshop 2022**) ([Paper Link](#)).
- [7] **Yanhui Guo**, Xiao Shu and Xiaolin Wu. "Data Acquisition for Dual-reference Deep Learning of Image Super-Resolution", (**Transactions on Image Processing (TIP)**) ([Paper Link](#)).
- [8] Fangzhou Luo, **Yanhui Guo** and Xiaolin Wu. "Functional Neural Networks for Parametric Image Restoration Problems", (**NeurIPS 2021**) ([Paper Link](#)).

- [9] **Yanhui Guo**, Xi Zhang and Xiaolin Wu. "Deep Multi-modality Soft-decoding of Very Low Bit-rate Face Videos", 2020 ACM International Conference on Multimedia (**ACM MM 2020**) ([Paper Link](#)).

Generative Creation

- [10] **Yanhui Guo**, Xinxin Zuo, Peng Dai, and et al., "Decorate3D: Text-Driven High-Quality Texture Generation for Mesh Decoration in the Wild", (**Two US patents, NeurIPS 2023**) (Project, [Paper Link](#)).
- [11] Hengkang Wang, ... **Yanhui Guo**, "Temporal-Consistent Video Restoration with Pre-trained Diffusion Models" (Under Review, 2025).

Natural Language Processing

- [12] **Yanhui Guo**, Shaoyuan Xu, Jinmiao Fu, Bryan Wang. "Q-Tuning: Continual Queue-based Prompt Tuning for Language Models", (**NAACL 2024**) ([Paper Link](#)).

Search and Recommendation

- [13] Mingdai, Fan Yang, **Yanhui Guo**, and et al., "PCL: Prompt-based Continual Learning for User Modeling in Recommender Systems", (**WWW 2025**) ([Paper Link](#)).

Others

- Journal/Conference Reviewer: CVPR 2022, ICML 2022, NeurIPS 2022, ECCV 2022/2024, CVPR 2023, ICME 2024, WACV 2024/2025, CVPR 2024/2025, NeurIPS 2025.
- Coding Skills: Python, C++, PyTorch, Tensorflow, AWS SageMaker, SQL, Git, OpenCV, Unity3D