

# Xiao CHEN

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GitHub Profile

Personal Page

## RESEARCH INTEREST

My research interest lies in **Trustworthy Generative Models** (Robustness, Fairness) and **Controllable image/video processing**. My ultimate research goal is to develop trustworthy generative models. To achieve this, I am focusing on three key steps: (1) **Understanding the intrinsic knowledge** embedded in generative models: This involves exploring what these models already know and identifying their current limitations. (2) **Leveraging this intrinsic knowledge** to enhance image and video processing tasks, and improve the **controllability of these tasks**. (3) **Enhancing the fairness and robustness of generative models**, make models more resilient against adversarial attacks and ensuring they produce unbiased outputs.

## EDUCATION

- The Hong Kong Polytechnic University** 2022-Now  
*Ph.D. candidate in Computer Science* Advisor: Qing Li, Zhaoxiang Zhang
- Zhejiang University** 2017-2020  
*M.Eng. in Computer Science* GPA: 3.9/4.0, Rank: 2/35
- Northwestern Polytechnical University** 2013-2017  
*B.Eng. in Software Engineering* GPA: 3.7/4.0, Rank: 2/235

## WORK EXPERIENCE

- Huawei Central Media Lab** 2020-2022  
*Machine Learning Engineer* Hangzhou

## LEADED PROJECTS

- Video Diffusion Models Know Depth, Normal, Optical Flow and more** Ongoing  
*Project leader*
  - In this project, we aim to answer the question: what scene properties do video generative models know?
  - We use fine-tuning or linear-probing techniques to reveal the intrinsic knowledge in video diffusion models
- Towards Flexible Interactive Reflection Removal with Human Guidance** Arxiv 2024  
*Xiao Chen, Xudong Jiang, Zhen Lei, Qing Li, Chenyang Lei, Zhaoxiang Zhang*
  - In this project, we reveal the potential of SAM in robust reflection recognition.
  - We curate an open-sourced interactive reflection removal dataset and build a novel mask-guided reflection removal network, achieving SOTA reflection removal performance and reduces human annotations from 50 inputs to 3-4 inputs
- Fairly Adaptive Negative Sampling for Recommendations** The WebConf 2023 (CCFA)  
*Xiao Chen, Wenqi Fan, Jingfan Chen, Zhaoxiang Zhang, Qing Li*
  - In this project, we build a novel adaptive negative sampling method with bi-level optimization, which contributes fair and accurate implicit recommendations
  - We revisit the commonly used uniform negative sampling techniques in recommender systems and find that they unwarrantedly discriminate against major item groups
- A Comprehensive Survey on Trustworthy Recommender Systems** Arxiv 2023  
*Wenqi Fan, Xiangyu Zhao, Xiao Chen, Qing Li*
  - In this project, we present an overview of the current research landscape in Trustworthy Recommender Systems
  - We study the following key dimensions: Robustness, Fairness, Explainability, Privacy and etc
- A dual-attention dilated residual network for liver lesion classification and localization** ICIP 2019  
*Xiao Chen, Yen-wei Chen, Lanfen Lin*
  - In this project, we devise self-attention mechanisms for enhancing lesion classification and localization performance.

## ACADEMICAL SERVICES

**Tutorial:** Trustworthy Recommender Systems: Foundations and Frontiers in KDD, WWW, IJCAI 2023

**Reviewer:** NeurIPS, ACM MM, ECCV, AAAI, TKDD, TAI

## AWARDS

- Outstanding Graduate Student in Zhejiang Province** 2020
- Merit Student & Excellent Student Cadre in ZJU** 2018, 2019
- Chiang Chen Scholarship** 2018
- National Scholarship** 2016
- First Prize in Asian Super Computer Competition** 2016