

Ziyi Kou

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Multimodal Generative AI / Trustworthy Computer Vision / Graph Neural Network / Human-AI Interaction

EDUCATION

PhD, Computer Science & Engineering	University of Notre Dame	2020.8 - Present
Exchange Student of Information Science at University of Illinois Urbana-Champaign, 2021.8-2022.5. Courses: Advanced Computer Algorithm, Operating System, etc. GPA 3.78.		
Master's Degree, Computer Science	University of Rochester	2018.9 - 2020.5
Courses: Machine Learning, Advanced Computer Vision. Artificial Intelligence, etc. GPA 3.83.		
Bachelor's Degree, Software Engineering	Chongqing University, China	2014.9 - 2018.6
Courses: Programming Language, Advanced Mathematics, Linear algebra, etc. GPA 3.51.		

SKILLS

Programming: Python, Java, SQL, HTML, JavaScript, MatLab, Spark, Bash, Arduino.

Packages: PyTorch, Keras, PyTorch-Lightning, Transformer, DGL, MMCV, OpenCV, Sklearn, AWS.

WORK EXPERIENCE

Research Scientist Intern	Meta	2023.12 - 2024.03
Will focus on trustworthy topics for visual tracking models on human-wearable VR devices		
Applied Scientist Intern	Amazon	2023.05 - 2023.08
Designed a graph neural network model to estimate Amazon customer-instock-value. Paper under review at Amazon internal conference.		
Machine Learning Engineer Intern	Instacart	2022.10 - 2023.02
Explored user-seller-product interactions to recommend basket products for Instacart users with cold sellers. Published at CIKM2023.		
Machine Learning Engineer Intern	GoDaddy Inc.	2022.05 - 2022.08
Focused on the design of a user-diversified multi-relational graph neural network for personalized online recommendation.		
Research Assistant	University of Rochester	2019.10 - 2020.04
Focused on image object localization, face generation and video anomaly detection. Published at ECCV, WACV, etc.		
Deep Learning Engineer Intern	Suzhou Institute of AI, Shanghai Jiao Tong University	2019.06 - 2019.08
Focused on the design of a light angular-based face recognition algorithm for smart-TV devices to recognize Asian celebrity faces in real time.		

MAIN PUBLICATIONS

Towards Scalable Story Visualization Enhanced by GPT	WebConf'24
Keywords: Text-to-Image Generation, Graph Neural Network, GPT	1 st Author; Under Review
GIFA: Generating Identity-Protected Segments for Fairness Enhanced Face Recognition	AAAI'23
Keywords: Face Recognition, Fairness, Masked Language Modeling	1 st Author; Under Review
Modeling Sequential Collaborative User Behaviors for Seller-aware Next Basket Recommendation	CIKM'23
Keywords: Basket Recommendation, Graph Transformer Model, Cold Start Learning	1 st Author
Few-shot Low-resource Knowledge Graph Completion with Multi-view Task Representation Generation	KDD'23
Keywords: Knowledge Graph Completion, Few-shot Learning	2 nd Author
A Controllable Prompt Adversarial Attacking Framework for Black-Box Text2Image Models	IJCAI'23
Keywords: Gradient Hard-Label Attacking, Text2Image Generation	1 st Author
A Crowd-AI Duo Relational Graph Learning Framework Towards Social Impact Aware Photo Classification	AAAI'23
Keywords: Image Classification, Graph Neural Network, Human-AI Interaction.	2 nd Author
A Web Crowdsourcing Based Face Partition Approach Towards Privacy-Aware Face Recognition	WebConf'22
Keywords: Face Recognition, Graph Neural Network, Privacy Machine Learning.	1 st Author
A Duo-Generative Approach to Explainable Multimodal COVID-19 Misinformation Detection	WebConf'22

Keywords: Visual-Language Modeling, Misinformation Detection.

Human-AI Interaction Towards Natural Language Explanation based COVID-19 Misinformation Detection

Keywords: Knowledge Graph, Misinformation Detection, Language Generation.

A Crowdsourcing Multi-Modal Knowledge Graph Approach to Explainable Fauxtography Detection

Keywords: Multimodal Knowledge Graph, Multimodal misinformation Detection.

Contrastive Domain Adaptation for Early Misinformation Detection: A Case Study on COVID-19

Keywords: Knowledge Transfer, Misinformation Detection.

A Hierarchical Crowdsourced Knowledge Graph Approach to Explainable COVID-19 Misinformation Detection

Keywords: Misinformation Detection; Knowledge Graph Modeling

Improve CAM with Auto-adapted Segmentation and Co-supervised Augmentation

Keywords: Object Localization, Weakly Supervised Learning.

Learning VQA towards Understanding Web Instructional Videos

Keywords: Visual Question Answering, Graph Neural Network.

ExgFair: A Crowdsourcing Data Exchange Approach To Fair Human Face Datasets Augmentation

Keywords: Fairness Machine Learning; Face Attribute Classification.

Faircrowd: Fair human face dataset sampling via batch-level crowdsourcing bias inference

Keywords: Fairness Machine Learning, Face Attribute Classification.

What comprises a good talking-head video generation

Keywords: Lip Reading Recognition, Sequential Learning.

Exfaux: A weakly supervised approach to explainable fauxtography detection

Keywords: Misinformation Detection; Graph Neural Network

AWARDS

CSE Outstanding Research Award, University of Notre Dame, 2023

3rd Winner of Ebay University Machine Learning Competition: Simi-Supervised Name Entity Recognition, 2022

Winner of Sequential Dynamic Molecular Prediction AI Competition, Argonne US National Lab, 2022

Bronze Medal for H&M Fashion Recommendations, Kaggle 2022

PhD Student Travel Grants, IEEE INFOCOM and IEEE BigData

Graduate Tuition Scholarship, University of Rochester 2018

Department-level Student Scholarship, Chongqing University 2018

Department-level Honor Graduate, Chongqing University 2018

co-1st Author

[IJCAI'22](#)

1st Author

[CSCW'22](#)

1st Author

[CIKM'22](#)

3rd Author

[GROUP'22](#)

1st Author

[WACV'21](#)

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