Ziyi Kou

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Trustworthy Deep Learning - Graph Neural Network - Visual Language Modeling - Recommender System

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, MMCV, OpenCV, Sklearn, AWS.

EXPERIENCE

Research Assistant **University of Notre Dame** **2022.1 - Present**

Focused on multi-modal data mining, fairness/privacy machine learning and graph modeling. Published at WWW, IJCAI, CSCW, BigData, etc.

Machine Learning Intern **GoDaddy Inc.** **2022.5 – 2022.8**

Proposed a multi-relational hierarchical graph neural network for personalized and diversified online product recommendation.

Research Assistant **University of Rochester** **2019.10 – 2020.4**

Focused on image object localization, face generation and video anomaly detection. Published at ECCV, WACV, etc.

Deep Learning Intern **Suzhou Institute of AI, Shanghai Jiao Tong University** **2019.6 – 2019.8**

Proposed a light-weighted angular-based face recognition algorithm for smart-TV devices to recognize Asian celebrity faces in real time.

Main Publications

An Adversarial Privacy-Preserved Face Component Graph Towards Fair Face Recognition **WWW'23**

Keywords: Graph Neural Network, Face Recognition, Fairness Machine Learning. 1st Author; Under Review

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. 2nd Author; Under Review

A Web Crowdsourcing Based Face Partition Approach Towards Privacy-Aware Face Recognition **WWW'22**

Keywords: Face Recognition, Graph Neural Network, Privacy Machine Learning. 1st Author

A Duo-Generative Approach to Explainable Multimodal COVID-19 Misinformation Detection **WWW'22**

Keywords: Visual-Language Modeling, Misinformation Detection. co-1st Author

Human-AI Interaction Towards Natural Language Explanation based COVID-19 Misinformation Detection **IJCAI'22**

Keywords: Knowledge Graph, Misinformation Detection, Language Generation. 1st Author

A Crowdsourcing Multi-Modal Knowledge Graph Approach to Explainable Fauxtography Detection **CSCW'22**

Keywords: Multimodal Knowledge Graph, Multimodal misinformation Detection. 1st Author

Contrastive Domain Adaptation for Early Misinformation Detection: A Case Study on COVID-19 **CIKM'22**

Keywords: Knowledge Transfer, Misinformation Detection. 3rd Author

Improve CAM with Auto-adapted Segmentation and Co-supervised Augmentation **WACV'21**

Keywords: Object Localization, Weakly Supervised Learning. 1st Author

Learning VQA towards Understanding Web Instructional Videos **WACV'21**

Keywords: Visual Question Answering, Graph Neural Network. 3rd Author

ExgFair: A Crowdsourcing Data Exchange Approach To Fair Human Face Datasets Augmentation **BigData'21**

Keywords: Fairness Machine Learning; Face Attribute Classification. 1st Author

Faircrowd: Fair human face dataset sampling via batch-level crowdsourcing bias inference **BigData'20**

Keywords: Fairness Machine Learning, Face Attribute Classification. 1st Author

Talking-head generation with rhythmic head motion **ECCV'20**

Keywords: Face Generation, Audio Driven Machine Learning. 5th Author

What comprises a good talking-head video generation **CVPRW'20**

Keywords: Lip Reading Recognition, Sequential Learning. co-1st Author

Awards

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

Bronze Medal for H&M Fashion Recommendations, Kaggle

PhD Student Travel Grants, IEEE INFOCOM and IEEE BigData

Graduate Tuition Scholarship, University of Rochester

Department-level Student Scholarship, Chongqing University

Department-level Honor Graduate, Chongqing University