XU ZHENG

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EDUCATION

Florida International University(FIU)   Jan. 2023 - Now
Ph.D. in Computer Science   Advisor: Prof. Dongsheng Luo   Miami, FL, USA

University of Electronic Science and Technology of China (UESTC)   Sept. 2018 - Jul. 2021
M.E. in Control Science and Engineering   Chengdu, China

Chongqing University (CQU)   Sept. 2014 - Jul. 2018
B.E. in Electronic Science and Technology   Chongqing, China

RESEARCH AREAS

Time Series Learning, Contrastive Learning, Explainable AI, Graph Neural Networks(GNNs),

WORKING EXPERIENCE

DSSS, NEC Lab   May 2024 - Aug. 2024
Research Intern, Mentor: Dr. Junxiang Wang   Princeton, NJ

. Multi-Modal Time Series foundation model

Department of Image Algorithm, ZTE   July 2021 - Jan. 2023
AI and Algorithm Design   Chengdu, China

. Created automation data collection pipeline, designed deep neural network for restoring images for **Under-Display Camera(UDC)**
. Implemented pruning, and quantization methods for **Raw Image Denoising Networks**.
. Tested and deployed deep neural networks on Android platform with **Tflite**,**Snapdragon QNN**.

SELECTED PROJECTS

Explainable Graph Neural Networks   Nov. 2023 - Now
Advisor: Prof. Dongsheng Luo, FIU

. Explainability-Assisted Graph Neural Networks for Data Efficiency.
. Robust Evaluation Metrics for Explainable GNNs.

Time Series Contrastive Learning with Adaptive Augmentations   Jan. 2023 - Sept. 2023
Advisor: Prof. Dongsheng Luo, FIU

. Information-theoretic framework for time series data augmentations.
. Contrastive learning augmentation framework for time series representation.

Generative Adversarial Learning for 3D Human Shape Generation   May 2019 - May 2021
Advisor: Prof. Yali Zheng, UESTC

. Explored human mesh generating by using **Conditional GAN** and optimization-based method from a single picture based on **SMPL**.
. Explored human mesh recovery under multi-view constraints.
. Estimated human mesh postures using 2D postures and weak depth labels.

SELECTED PAPERS

1. Shouwei Gao, **Xu Zheng**, et. al, Dongsheng Luo, Wenqian Dong,"Loxia: Self-Guided Pruning for Scientific AI Foundation Models". (SC, 2024 under review)

2. **Xu Zheng**, et. al, Dongsheng Luo,"PAC Learnability under Explanation-Preserving Graph Perturbations". (Arxiv, 2024 preprint)

3. Tianchun Wang, Farhad Shirani,**Xu Zheng**, et. al, Dongsheng Luo, Xiang Zhang, "Chiseling the Graph: An Edge-Sculpting Method for Explaining Graph Neural Networks". (CIKM, 2024 under review)

4. Zichuan Liu, Tianchun Wang, Jimeng Shi, **Xu Zheng**, et. al, Dongsheng Luo, "TimeX++: Learning Time-Series Explanations with Information Bottleneck". (ICML, 2024 under review)

5. **Xu Zheng**, Tianchun Wang, Wei Cheng, Aitian Ma, Haifeng Chen, Mo Sha, Dongsheng Luo, "Parametric Augmentation for Time Series Contrastive Learning", ICLR, 2024, IJCAI workshop AI4TS, 2023. (**Best Paper Award**)

6. **Xu Zheng**[*], Farhad Shirani[*], Tianchun Wang, Wei Cheng, Zhuomin Chen, Haifeng Chen, Hua Wei, Dongsheng Luo, "Towards Robust Fidelity for Evaluating Explainability of Graph Neural Networks", ICLR, 2024.

7. **Xu Zheng**, Tianchun Wang, Samin Yasar Chowdhury, Ruimin Sun, Dongsheng Luo, "Unsafe Behavior Detection with Adaptive Contrastive Learning in Industrial Control Systems", IEEE European Symposium on Security and Privacy Workshops, EuroS&PW 2023.

8. Minghao Lin, Minghao Cheng, Yueqi Chen, **Xu Zheng**, Dongsheng Luo, Huajiang Chen, "CLExtract: An End-to-End Tool Decoding Highly Corrupted Satellite Stream from Eavesdropping", Black Hat USA Arsenal 2023.

9. **Xu Zheng**, Yali Zheng, Shubing Yang, "Generating Multiple Hypotheses for 3D Human Mesh and Pose using Conditional Generative Adversarial Nets", Proceedings of the Asian Conference on Computer Vision, ACCV 2022.

TEACHING EXPERIENCES

Intermediate Java Programming   Jan. 2024 - Now

· Role: Teaching Assistant
· Instructor: Prof. Mustafa Ocal, FIU
· 69 Students

Introduction to Artificial Intelligence   Aug. 2023 - Dec. 2023

· Role: Teaching Assistant
· Instructor: Prof. Yanzhao Wu, FIU
· 39 Students

System Programing   May 2023 - Aug. 2023

· Role: Teaching Assistant
· Instructor: Prof. Latesh Kumar KJ, FIU
· Over 40 Students

PROFESSIONAL SERVICES

External Reviewer

· ICDM 22,23
· WSDM 23,24
· SDM 24
· KDD 23
· ICLR 24
· IJCAI 23, 24
· ICML 23, 24
· NeurIPS 23, 24
· IEEE CLOUD 2023
· ACM TKDD
· PAKDD 24

SOFTWARE AND DATA RELEASE

A Robust Decoding System for Highly Corrupted Satellite Stream Recovery
https://github.com/AslanDing/CLExtract

AutoTCL: Automated Time Series Contrastive Learning with Adaptive Augmentations
https://github.com/AslanDing/AutoTCL

Towards Robust Fidelity for Evaluating Explainability of Graph Neural Networks
https://github.com/AslanDing/Fidelity

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++
Software and Tools: PyTorch, PyG, Tensorflow, OpenCV