

GUANGYU SUN

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📍 Orlando, Florida

EDUCATION

University of Central Florida <i>Ph.D. student in Computer Science.</i>	<i>Aug. 2022 - Now</i>
University of Rochester <i>Master of Science in Computer Science. GPA: 4.0/4.0</i>	<i>Aug. 2020 - May. 2022</i>
University of Missouri-Columbia <i>Bachelor of Science in Computer Science. GPA: 3.7/4.0</i>	<i>Aug. 2017 - May. 2019</i>
Shandong University <i>Bachelor of Engineering in Computer Science and Technology. GPA: 4.1/5.0</i>	<i>Sep. 2015 - Jun. 2017</i>

RESEARCH INTERESTS

Federated learning, Multi-modality learning, Generative AI ...

PUBLICATIONS

Towards Multi-modal Transformers in Federated Learning

Guangyu Sun, Matias Mendieta, Aritra Dutta, Xin Li, Chen Chen

2024 European Conference on Computer Vision (ECCV)

FedPerfix: Towards Partial Model Personalization of Vision Transformers in Federated Learning

Guangyu Sun, Matias Mendieta, Jun Luo, Shandong Wu, Chen Chen

2023 IEEE/CVF International Conference on Computer Vision (ICCV)

Exploring Parameter-Efficient Fine-Tuning to Enable Foundation Models in Federated Learning

Guangyu Sun, Umar Khalid, Matias Mendieta, Pu Wang, Chen Chen

2024 IEEE International Conference on Big Data

Navigating Heterogeneity and Privacy in One-Shot Federated Learning with Diffusion Models

Matias Mendieta, Guangyu Sun, Chen Chen

2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)

Anomaly Crossing: A New Method for Video Anomaly Detection as Cross-domain Few-shot Learning

Guangyu Sun, Zhang Liu*, Lianggong Wen, Jing Shi, Chenliang Xu. (* joint 1st authors)*

arXiv, 2021

Deep Learning Detection of Inaccurate Smart Electricity Meters: A Case Study

Ming Liu, Dongpeng Liu*, Guangyu Sun, Yi Zhao, Duolin Wang, Fangxing Liu, Xiang Fang, Qing He, Dong Xu. (* joint 1st authors)*

IEEE Industrial Electronics Magazine (Volume: 14, Issue: 4, Dec. 2020)

Assessing Environmental Oil Spill Based on Fluorescence Images of Water Samples and Deep Learning

Dongpeng Liu, Ming Liu*, Guangyu Sun, Zhiqian Zhou, Duolin Wang, Fei He, Jiaxin Li, Jiacheng Xie, Ryan Gettler, Eric Brunson, Jeffery Stevens, Dong Xu. (* joint 1st authors)*

Journal of Environmental Informatics (Volume: 42, Issue: 1, Sep. 2023)

RESEARCH EXPERIENCE

Research Assistant (ORC Fellow)

Center for Research in Computer Vision (CRCV), University of Central Florida

Aug. 2022 - Now

- Investigating methods on **efficient fine-tuning** and **federated learning**.

Research Assistant

University of Rochester

Aug. 2020 - May 2022

- Investigating **video anomaly detection and anticipation** tasks under collaboration with Corning Inc.

Undergraduate Research Assistant*Feb. 2018 - May 2020**Digital Biology Laboratory (DBL), University of Missouri-Columbia*

- Exploring the application of deep learning methods on anomaly detection and environment assessment.

WORK EXPERIENCE

Research Intern on Vision Foundation Model and Generative AI*Aug. 2024 - Nov. 2024**Sony AI, remote*

- Explored research on enhancing the vision foundation model with federated learning.
- For object detection task, proposed a Mixture-of-Experts-based method under a novel semi-supervised federated learning setting with frozen backbones.

Research Intern*Jun. 2022 - Aug. 2022**Pythonic Inc, Milwaukee, WI*

- Deployed a multi-modal model, LayoutLMv3, for document understanding tasks.
- Proposed efficient fine-tuning methods, multi-modal prompt tuning, and adapters, to accelerate the training and perform better when handling new data with domain gaps.

Teaching Assistant*Aug. 2021 - Dec. 2021**University of Rochester, Rochester, NY*

- Head TA for CSC 244/444: Knowledge Representation and Reasoning in AI.

Machine Learning Engineer Intern (Remote)*Sep. 2020 - Dec. 2021**Automat Solutions, Fremont, CA*

- Designed and implemented electrolyte material generation model for optimal targets using the Bayesian Optimization and Reinforcement Learning model (DDPG)
- Designed and implemented the database for generated recipes and experimental results.

SKILLS AND ACADEMIC SERVICE

Language: Python**Framework:** Pytorch**Conference Reviewer:** CVPRW, ICHI, WACV**Journal Reviewer:** IEEE TPAMI, IEEE TITS, IEEE TNNLS, Journal of Real-Time Image Processing