

# 2024 IEEE International Workshop on Foundation Models for Cyber-Physical Systems & Internet of Things (FMSys) **FMSys 2024**

## Table of Contents

### Session 1: Multimodal Foundation Models for CPS-IoT Applications

CoRAST: Towards Foundation Model-Powered Correlated Data Analysis in Resource-Constrained CPS and IoT .....	1
<i>YI HU (Carnegie Mellon University, USA), Jinhang Zuo (California Institute of Technology &amp; University of Massachusetts Amherst, USA), Alanis Zhao (Carnegie Mellon University, USA), Bob Iannucci (Google, USA), and Carlee Joe-Wong (Carnegie Mellon University, USA)</i>	
On the Efficiency and Robustness of Vibration-based Foundation Models for IoT Sensing: A Case Study .....	7
<i>Tomoyoshi Kimura (University of Illinois at Urbana-Champaign), Jinyang Li (University of Illinois at Urbana-Champaign), Tianshi Wang (University of Illinois at Urbana-Champaign), Denizhan Kara (University of Illinois at Urbana-Champaign), Yizhuo Chen (University of Illinois at Urbana-Champaign), Yigong Hu (University of Illinois at Urbana-Champaign), Ruijie Wang (University of Illinois at Urbana-Champaign), Maggie Wigness (DEVCOM Army Research Laboratory), Shengzhong Liu (Shanghai Jiao Tong University), Mani Srivastava (University of California, Los Angeles), Suhas Diggavi (University of California, Los Angeles), and Tarek Abdelzaher (University of Illinois at Urbana-Champaign)</i>	
Sensor2Scene: Foundation Model-driven Interactive Realities .....	13
<i>Yunqi Guo (The Chinese University of Hong Kong), Kaiyuan Hou (Columbia University), Zhenyu Yan (The Chinese University of Hong Kong), Hongkai Chen (The Chinese University of Hong Kong), Guoliang Xing (The Chinese University of Hong Kong), and Xiaofan Jiang (Columbia University)</i>	
NetBench: A Large-Scale and Comprehensive Network Traffic Benchmark Dataset for Foundation Models .....	20
<i>Chen Qian (William &amp; Mary, USA), Xiaochang Li (William &amp; Mary, USA), Qineng Wang (Independent Researcher), Gang Zhou (William &amp; Mary, USA), and Huajie Shao (William &amp; Mary, USA)</i>	

## Session 2: LLM for Human-centric applications

An LLM-Based Digital Twin for Optimizing Human-in-the Loop Systems .....	26
<i>Hanqing Yang (Carnegie Mellon University), Marie Siew (Singapore University of Technology and Design), and Carlee Joe-Wong (Carnegie Mellon University)</i>	
VIAssist: Adapting Multi-modal Large Language Models for Users with Visual Impairments .....	32
<i>Bufang Yang (The Chinese University of Hong Kong), Lixing He (The Chinese University of Hong Kong), Kaiwei Liu (The Chinese University of Hong Kong), and Zhenyu Yan (The Chinese University of Hong Kong)</i>	
HARGPT: Are LLMs Zero-Shot Human Activity Recognizers? .....	38
<i>Sijie Ji (The University of Hong Kong), Xinzhe Zheng (The University of Hong Kong), and Chenshu Wu (The University of Hong Kong)</i>	
Exploring Foundation Models in Detecting Concerning Daily Functioning in Psychotherapeutic Context based on Images from Smart Home Devices .....	44
<i>Yuang Fan (Columbia University, USA), Jingping Nie (Columbia University, USA), Xinghua Sun (University of Washington, USA), and Xiaofan Jiang (Columbia University, USA)</i>	
LLM-enabled Cyber-Physical Systems: Survey, Research Opportunities, and Challenges .....	50
<i>Weizhe Xu (University of Notre Dame), Mengyu Liu (University of Notre Dame), Oleg Sokolsky (University of Pennsylvania), Insup Lee (University of Pennsylvania), and Fanxin Kong (University of Notre Dame)</i>	
The Rise of Large Language Models in the Medical Field: A Bibliometric Analysis .....	56
<i>Wenhao Qi (Hangzhou Normal University, China), Shihua Cao (Hangzhou Normal University, China), Bin Wang (Hangzhou Normal University, China), Xiaohong Zhu (Hangzhou Normal University, China), Chaoqun Dong (Hangzhou Normal University, China), Danni He (Hangzhou Normal University, China), Yanfei Chen (Hangzhou Normal University, China), Yankai Shi (Hangzhou Normal University, China), and Bingsheng Wang (Hangzhou Normal University, China)</i>	
Author Index .....	63