TIM2025 Thematic Workshop | TIM2025 专题研讨会预告

Workshop: AI in Transportation Infrastructure

人工智能赋能交通基础设施研究与实践

Time: Friday, July 25, 2025, starting at 14:30 (Duration: 2–3 hours)

时间：2025 年 7 月 25 日（星期五）14:30 起（2–3 小时）

Venue: Main Hall, TIM2025 Conference

地点：TIM2025 主会场

主持人 / Moderators：

• Prof. Zhen Leng, Hong Kong Polytechnic University

• Prof. Wenbing Shi, Guizhou University

• Prof. Feng Ma, Chang'an University

With the rapid development of Artificial Intelligence (AI) in engineering, its applications in transportation infrastructure are expanding into key areas such as structural monitoring, pavement evaluation, traffic system optimization, and infrastructure maintenance. To promote interdisciplinary integration and practical implementation of cutting-edge research, TIM2025 has specially organized the thematic workshop "AI in Transportation Infrastructure," inviting experts from China, the U.S., Hong Kong, Singapore, and beyond to exchange innovative research and real-world applications of AI in transportation engineering.

随着人工智能（AI）技术在工程领域的迅猛发展，其在交通基础设施领域的应用也正逐步深化，涵盖结构监测、路面检测、交通系统优化、设施养护等多个关键环节。为推动前沿科研成果的交叉融合与落地实践，TIM2025 大会特别设置 "AI in Transportation Infrastructure" 专题研讨会，邀请来自中国、美国、香港、新加坡等地的专家学者齐聚一堂，围绕 AI 技术在交通工程中的创新研究与应用实践展开深入交流。

Key Topics | 核心议题

• AI-enabled pavement condition evaluation and damage detection

• Infrastructure maintenance decision-making supported by machine learning

• Data fusion, computer vision, and intelligent sensing technologies

• AI applications in intelligent transportation systems and infrastructure asset management

• Cross-disciplinary collaboration and technology deployment challenges

Featured Presentation Preview | 精彩报告预告

AI-based Insights into Pavement Mechanics
—— Prof. Xue Luo, Zhejiang University

Applications of GEOAI in Urban Environmental Analysis
—— Prof. Yuhong Wang, The Hong Kong Polytechnic University

Intelligent transport infrastructures: Recent research from Singapore

—— Prof. Ong Ghim Ping Raymond, National University of Singapore

A Critical Examination of AI Trends Through the Lens of Riohtrack's Data Analytics Contest
—— Hongzhou Zhu, Chongqing Jiaotong University

Ballast Degradation Index Estimation Based on Optical Images
—— Prof. Yu Qian, University of South Carolina

Modeling Methods for AI in Handling Discrete Actual Test Data
—— Prof. Xiaoming Wang, Guizhou University

A Brief Introduction on the Research Progress of Large Language Model
—— Prof. Qiwen Dong, East China Normal University

New AI Methods for Advancing Structural Component Assessment in Automated Visual Inspection
—— Prof. Ruwen Qin, Stony Brook University

Invited Guests | 与会嘉宾

• Prof. Meizhu Chen, Wuhan University of Technology

• Prof. Dingxin Cheng, California State University, Chico

• Prof. Baoshan Huang, University of Tennessee

• Prof. Xi Jiang, Tongji University

• Prof. Hui Li, Tongji University

• Prof. Jenny Liu, Missouri University of Science and Technology

• Prof. Guoyang Lu, City University of Hong Kong

• Prof. Yinghao Miao, Southeast University

• Prof. Ong Ghim Ping Raymond, National University of Singapore

• Prof. Ruwen Qin, Stony Brook University

• Prof. Xiaoming Wang, Guizhou University

• Prof. Huanan Yu, Changsha University of Science and Technology

• Prof. Yuqing Zhang, Southeast University

• Prof. Hongzhou Zhu, Chongqing Jiaotong University

Highlights | 活动亮点

- Focusing on cutting-edge topics at the intersection of AI and transportation infrastructure
- Gathering international experts from China, the U.S., Hong Kong, and Singapore
- Exploring practical applications of AI in pavement maintenance, condition assessment, intelligent sensing, and urban traffic management
- Featuring expert presentations and open discussions to inspire idea exchange and collaboration
- 聚焦人工智能与交通基础设施交叉应用的前沿议题
- 汇聚国际专家，涵盖中、美、港、新多国学术视角
- 探讨 AI 在道路养护、状态识别、智能感知、城市交通管理等多个关键环节中的实际应用
- 专题报告 + 自由讨论形式，鼓励观点碰撞与合作机会

This workshop aims to provide a high-level interdisciplinary platform for researchers and practitioners to exchange ideas and foster the integration and real-world implementation of AI in transportation infrastructure. Faculty, students, engineers, and researchers are warmly invited to participate!

本研讨会将为学术界与工程实践界搭建高水平、跨领域的深度交流平台，推动人工智能与交通基础设施的深度融合与工程落地。欢迎广大师生、工程技术人员与科研同仁积极参与！

For more details, please stay tuned to the official TIM2025 announcements.
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