Empowering Civil Engineering with Generative AI: Opportunities, Risks, and Future Directions

Sunday, July 28, 3:00 PM - 5:00 PM, Grand Station Room 5

2024 ASCE International Conference on Computing in Civil Engineering

Organizers:

- Pingbo Tang, Associate Professor, CEE, CMU
- Beibei Li, Professor, Heinz College, CMU
- Ruoxin Xiong, CEE, CMU
- Yael Netser, SoA & CEE, CMU
- Joonsun Hwang, CEE, CMU



This workshop aims to explore the **transformative potential of Generative Artificial Intelligence (GAI)** in revolutionizing Architecture, Engineering, and Construction (AEC) workflows. By enhancing efficiency, precision, and innovation, GAI can significantly impact design, planning, construction, and maintenance processes. However, the deployment of GAI also brings **challenges and risks**, including *ethical concerns, job displacement, privacy issues, governance, and cybersecurity*. This workshop will discuss solutions to mitigate potential risks. Additionally, it will focus on developing a **policy framework** to guide the responsible integration of GAI, ensuring public welfare and upholding principles of accountability and safety. Through **presentations, industry insights, and collaborative breakout sessions**, participants will gain a comprehensive understanding of GAI's current state and future directions in AEC. The ultimate objective is to **formulate a roadmap for responsible GAI adoption and research**, fostering a forward-thinking and ethically grounded approach to technological advancement in civil engineering.

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