Dr. Ram Mantha

Assistant Professor

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Highlights

Dr. Bharadwaj R. K. Mantha is an Assistant Professor in the Department of Civil and Environmental Engineering at the University of Sharjah. Dr. Mantha specializes in construction engineering and management, with interdisciplinary expertise in construction automation and robotics, cybersecurity in construction, data analytics, building data visualization, and technology-driven solutions for the architecture, engineering, and construction (AEC) industry. Dr. Mantha's research focuses on developing sustainable methods to plan, build, monitor, control, and operate buildings and civil infrastructure systems using robotics, cybersecurity frameworks, and digital technologies. Dr. Mantha has received international recognition for his work, including major ASCE awards, and has contributed actively to emerging areas such as robotic 3D printing, cyber vulnerability in construction networks, and autonomous systems for building performance evaluation.

Educational Background

2018 **Doctor of Philosophy (PhD) in Civil Engineering**
Major: Construction Engineering and Management, University of Michigan, Ann Arbor, USA

2016 **Graduate Certificate, Michigan Institute of Data Sciences (MIDAS)**
Major: Computational Discovery in Engineering, University of Michigan, Ann Arbor, USA

2014 **Master of Science (MSc) in Civil Engineering**
Major: Construction Engineering and Management, University of Michigan, Ann Arbor, USA

2011 **Bachelor of Technology (BTech) in Civil Engineering**
Bachelor of Technology (BTech) in Civil Engineering, National Institute of Technology (NIT), Durgapur, India

Research (Recent Publications)

- Sati A., Hosny F., **Mantha B. R.**, Abu Dabous S., and Al-Ruzouq R., (2026) "A Mapping Review of Three-Dimensional Concrete Printing in the Architecture, Engineering, and Construction Industry: Trends, Gaps, and Future Research Directions", ASCE Journal of Computing in Civil Engineering (JCCE) (Accepted).
- Ninan, J., **Mantha, B. R.**, & Kesavan, B. (2025). Human-centred cybersecurity for critical infrastructure: the case of the Florida water plant hack. Engineering, Construction and Architectural Management, 32(13), 547-569.
- **Mantha, B. R.**, Kalasapudi, V. S., Upadhyaya, A. V., & Thomas, A. (2025). A life cycle cost analysis framework to compare fixed sensor network and on-demand robot-based data collection in indoor building environments. Journal of Information Technology in Construction (ITcon), 30(69), 1680-1706.

Honors and Recognition

2021 **ASCE Collingwood Prize**
American Society of Civil Engineers (ASCE)

2021 **Outstanding Reviewer**
International Symposium on Automation and Robotics in Construction (ISARC)

2021 **ASCE Arthur M. Wellington Prize**
American Society of Civil Engineers (ASCE)

2020 **Research Fellowship**
New York University Abu Dhabi

Teaching (Selected Courses)

- Computer Integrated Construction Engineering Systems
- Construction Engineering
- Professional Practice in Civil and Environmental Engineering
- Engineering Economics
- Construction Automation and Robotics
- Numerical Methods
- Construction Contracting