Muhammad Usman Hassan

Associate Professor

NUST Institute of Civil Engineering

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About

Dr. Muhammad Usman Hassan is working as Associate Professor in the NUST Institute of Civil Engineering. Dr. Muhammad Usman Hassan has a PhD in Construction Robotics. Dr. Muhammad Usman Hassan has published 20 research articles & conference papers having a citation count of 92, carried out 2 projects and filed 7 intellectual property.

Qualifications

PhD in Construction Robotics 2014 - 2018
Middle East Technical University , Turkey

MSc in Construction Engineering And Management 2010 - 2014
NUST, Islamabad , Pakistan

BE in Civil Engineering 2002 - 2006
NUST, Islamabad , Pakistan

Experience

Associate Professor 2025- Present
NUST Institute of Civil Engineering

Assistant Professor 2019 - 2019
NUST Institute of Civil Engineering

Assistant Professor 2019 - 2019
NUST Institute of Civil Engineering

Head of solutions 2015 - 2017
Yapidestek Muhendislik , ODTU Ankara

Manager OHS KSA & PAK 2010 - 2011
Ericsson RMEA , Saudi Pak tower, E11, Islamabad

Civil Works Engineer 2006 - 2011
Telenor Pakistan , Gulberg green, Islamabad

Professional Memberships

PEC Since 2007

Research Projects

National Projects

Development of testbed of a prototype bridge for real-time health monitoring of Reinforced concrete bridges 2022
Funding Agency: HEC
Amount: PKR 17,713,000.00
Status: Approved_inprocess

Development of a digital construction information management system - a BIM based approach 2021
Funding Agency: HEC
Amount: PKR 5,566,000.00
Status: Completed

International Projects

Research Articles

Improved damage assessment of bridges using advanced signal processing techniques of CEEMDAN-EWT and Kernal PCA 2025

Muhammad Usman Hanif Muhammad Usman Hassan Shaukat Ali Khan Ather Ali Hamza Ahsan Abdullah Janita Mahnoor Shahid

Engineering Structures , Volume 329, Article Number 119774

Impact Factor: 5.600 | **Quartile:** 1 | **Citations:** 2

DOI: doi.org/10.1016/j.engstruct.2025.119774

A framework for effective construction workers safety training using flipped learning. 2025

Muhammad Usman Hassan Muhammad Umer Zubair Khursheed Ahmed Abdul Rehman Taha Aziz

Journal of Civil Engineering and Management, Volume 31(3), Pages 206-223

Impact Factor: 4.300 | **Quartile:** 1

DOI: https://doi.org/10.3846/jcem.2025.23083

BIM-BASED framework for optimization of cctv surveillance in buildings 2024

Taha Aziz Muhammad Usman Hassan Mehmood Ahmed Muhammad Arsalan Khan Waqas Arshad Tanoli Muhammad Umer Zubair

Journal of Information Technology in Construction, Volume 29, Pages 894-913

Impact Factor: 3.600 | **Quartile:** 1

DOI: 10.36680/j.itcon.2024.039

BIM-based search and selection of construction material suppliers: a dedicated framework and prototype 2024

Muhammad Usman Hassan Fahim Ullah Abdur Rehman Nasir Muhammad Jamaluddin Thaheem Usman Aftab

Construction Innovation, Pages 1-24

Impact Factor: 3.100 | **Quartile:** 2 | **Citations:** 1

DOI: 10.1108/CI-06-2023-0136

Integrated building information modeling and blockchain system for decentralized progress payments in construction projects 2024

Muhammad Usman Hassan Fahim Ullah Khursheed Ahmed Muhammad Asfund Khalid

Journal of Engineering Design and Technology, Pages 1-27

Impact Factor: 2.600 | **Quartile:** 1 | **Citations:** 1

DOI: 10.1108/JEDT-04-2024-0252

Enhancing Student Active Engagement in Class through Game-Based Learning: A Case of Civil Engineering Education 2024

Muhammad Umer Zubair Muhammad Abbas Khan Muhammad Usman Hassan Khursheed Ahmed Taha Aziz

Sustainability , Volume 16(14), Article Number 6010

Impact Factor: 3.300 | **Quartile:** 2 | **Citations:** 3

DOI: https://doi.org/10.3390/su16146010

Traffic Flow Optimization at Toll Plaza Using Proactive Deep Learning Strategies 2024

Habib Talha Hashmi Sameer Ud Din Muhammad Asif Khan Jamal Ahmed Khan Muhammad Arshad Muhammad Usman Hassan

Infrastructures , Volume 9(5), Article Number 87

Impact Factor: 2.700 | **Quartile:** 2 | **Citations:** 2

DOI: https://doi.org/10.3390/infrastructures9050087

Near-Miss Detection Metrics: An Approach to Enable Sensing Technologies for Proactive Construction Safety Management 2024

Filzah Hashmi Muhammad Usman Hassan Muhammad Umer Zubair Khursheed Ahmed Taha Aziz Rafiq M. Choudhry

Buildings , Volume: 14, Issue: 4, Article Number: 1005

Impact Factor: 3.8 | **Quartile:** 2 | **Citations:** 6

DOI: 10.3390/buildings14041005

Framework for Strategic Selection of Maintenance Contractors 2024

Muhammad Umer Zubair Osama Farid Muhammad Usman Hassan Taha Aziz Sameer Ud-Din

Sustainability , Volume:16, Issue:6, Article Number: 2488

Impact Factor: 3.9 | **Quartile:** 2 | **Citations:** 1

DOI: 10.3390/su16062488

Barriers to Incident Reporting in the Pakistani Construction Industry: An Exploratory Factor Analysis Approach 2024

Ghanim Saqib Muhammad Usman Hassan Muhammad Umer Zubair

Journal of Construction in Developing Countries, Vol:28(2), Pages:243-264

Impact Factor: 0.800 | **Quartile:** 4 | **Citations:** 2
DOI: 10.21315/jcdc-04-22-0077

BIM- and GIS-Based Life-Cycle-Assessment Framework for Enhancing Eco Efficiency and Sustainability in the Construction Sector 2024

Muhammad Umer Zubair Mubashir Ali Muhammad Arsalan Khan Adil Khan Muhammad Usman Hassan Waqas Arshad Tanoli

Buildings , Volume: 14, Issue: 02, Article Number: 360

Impact Factor: 3.8 | **Quartile:** 2 | **Citations:** 21
DOI: 10.3390/buildings14020360

Utilizing Chat GPT for Automation of Material Supply in Construction Projects using Programming and Primavera P6 Scheduling 2023

Areeba Ashiq Usman Hassan Muhammad Omer Zubair

Sustainable Structures and Materials , Volume 6, No. 1, Pages 49-53

Impact Factor: N/A
DOI: https://doi.org/10.26392/SSM.2023.06.01.049

Aligning expectations and perceptions of elevator maintenance stakeholders: an application of expectation confirmation theory 2023

Muhammad Umer Zubair Xueqing Zhang Muhammad Usman Hassan

Building Research and Information, Pages 1-13

Impact Factor: 3.9 | **Quartile:** 2 | **Citations:** 1
DOI: https://doi.org/10.1080/09613218.2023.2236252

Investigating the Acceptance of an Electronic Incident Reporting System in the Construction Industry: An Application of the Technology Acceptance Model 2023

Ghanim Saqib Muhammad Usman Hassan Muhammad Umer Zubair Rafiq Muhammad Choudhry

Journal of Construction Engineering and Management, Volume 149, Issue 5, Article Number 04023021

Impact Factor: 5.292 | **Quartile:** 1 | **Citations:** 7
DOI: https://doi.org/10.1061/JCEMD4.COENG-12583

Workers' relational identification with supervisors influences safety behaviour in construction projects 2022

Hassan Ashraf Alishbah Ali Riza Yosia Sunindijo Ahsen Maqsoom Shoeb Ahmed Memon Muhammad Usman Hassan

Engineering, Construction and Architectural Management, Pages 1-22

Impact Factor: 4.1 | **Quartile:** 2 | **Citations:** 7
DOI: https://doi.org/10.1108/ECAM-02-2022-0122

Damage assessment of reinforced concrete beams using cost-effective MEMS accelerometers 2022

Sultani Mulk Khan Muhammad Usman Hanif Azam Khan Muhammad Usman Hassan Ahad Javanmardi Atif Ahmad

Structures , Volume 41, Pages 602-618

Impact Factor: 2.983 | **Quartile:** 2 | **Citations:** 16
DOI: https://doi.org/10.1016/j.istruc.2022.04.101

BIMp-Chart—A Global Decision Support System for Measuring BIM Implementation Level in Construction Organizations 2021

Qurratulain Malik Abdur Rehman Nasir Rabiah Muhammad Khurram Iqbal Ahmad Khan Muhammad Usman Hassan Muhammad Jamaluddin Thaheem Fahim Ullah

Sustainability , Volume 13(16), Article Number 927

Impact Factor: 3.889 | **Quartile:** 2 | **Citations:** 22
DOI: https://doi.org/10.3390/su13169270

Conference Proceedings

Circular Economy for Successful Implementation of Sustainable Development in the Construction Industry 2022

Maria Ghufran Khurram Iqbal Ahmad Khan Abdur Rehman Nasir Muhammad Usman Hassan Ahsen Maqsoom

12th International Conference on Engineering, Project, and Production Management (EPPM2022), res.country(88,)

Citations: N/A

DOI: Nil

Incident Reporting Tool 2019

Dr. Muhammad Usman Hassan Aneeqa Sikander Ayesha Nawaz Fatima Saleem Sundas Iqbal

1st Conference on Sustainability in Civil Engineering (CSCE'19), res.country(177,)

Citations: N/A

DOI: 978-969-23344-0-2

Investigation of Terrestrial Laser Scanning Reflectance Intensity and RGB Distributions to Assist Construction Material Identification 2017

Cagla Meral Dr. Muhammad Usman Hassan Asli Akcamete

Joint Conference on Computing in Construction (JC3), res.country(88,)

Citations: N/A

DOI: 10.24928/JC3-2017/0312

Intellectual Property

Copyrights

AI Claim Correspondent - Source Code 2024

Status: Filed

AI Claim Correspondent - GUI 2024

Status: Filed

Labor hiring platform-Source Code 2024

Status: Filed

Labor hiring platform-GUI 2024

Status: Filed

Source Code Of SiteSynce 2024

Status: Filed

GUI of SiteSync 2024

Status: Filed

Patents

Construction Workers Identification and tracking System 2022

Status: Filed

Industrial Designs

Trademarks

Trainings

FIDIC Conditions of Contract 2024

Partner: Open Enrollement

Duration: 06-Sep-2024 to 28-Sep-2023

Advanced Training Course on FIDIC Red Book 1999 & Pink Book 2010 (MDB) 2024

Partner: Open Training

Duration: 19-Feb-2024 to 08-Feb-2024

Construction Engineering and Management Diploma at PDC-NUST 2022

Partner: Construction industry stakeholders

Duration: 01-Feb-2022 to 25-Aug-2022