

Mojtaba Noghabaei

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Education

North Carolina State University (NC State) **2017 – 2022**

- **Ph.D.** Civil, Construction, and, Environmental Engineering (pursuing)
- **M.CS.** Computer Science (pursuing)

University of Tehran **2013 – 2017**

- **B.S.** Civil and Environmental Engineering

Research Experience

Graduate Research Assistant (NC State) **2017 – 2018**

- Developing cutting edge applications with Unity3D enabled by Tobii/HTC virtual reality (VR) device and brain sensing devices for understanding how construction workers recognize hazards in an immersive virtual environment: analysis of EEG and visual search patterns
- VR tool for cost estimation purposes for improving customer satisfaction rate
- Cloud-based immersive remote inspection system using unmanned aerial vehicle (UAV)
- Outdoor robotic system containing a ground robot and a blimp capable of autonomous navigation using visual sensors
- Pipe overflow prediction model in stormwater networks and visualization using Mixed Reality (MR)
- Real-time image localization and registration with BIM using perspective alignment for indoor monitoring of construction
- Virtual manipulation in an immersive virtual environment: simulation of virtual assembly

Industry Experience

Programmer and VR Developer Tecnosa Research Office, Tehran, Iran **2016 – 2017**

- BIM based bridge management system for maintenance scheduling using Navisworks API and metaheuristic algorithms
- Commercial VR models for residential buildings
- VR tools for heavy crane simulation and crane technician's training
- Designing user interface (UI) for energy analysis systems in BIM

Intern and Programmer Imen Sazeh Fadak, Tehran, Iran **2016 – 2017**

- Developed Sketchup and VR models for residential buildings

Teaching Experience

Graduate Teaching Assistant **2017 – 2018**

- CE 301 Civil Engineering Surveying and Geomatics

Undergraduate Teaching Assistant **2016 – 2017**

- CSC-112: Introduction to Computing-Visual Basic Programming

Skills

Programming Python, C#, C++, VB, JAVA, Navisworks API

Software Microsoft Project, AutoCAD, Unity3D, Stingray, Etabs, Safe, Revit, Navisworks

Awards

Graduate Merit Award (GMA) Fellowship **2017**

Publications

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- Vahid Balali, Mojtaba Noghabaei, Arsalan Heydarian, and Kevin Han; Improved Stakeholder Communication and Visualizations: Real-time Interaction and Cost Estimation within Immersive Virtual Environments. *Construction Research Congress (CRC 2018)*
 - Navid Kayhani, Hosein Taghaddos, Mojtaba Noghabaei, and Ulrich (Rick) Hermann; Utilization of Virtual Reality Visualizations on Heavy Mobile Crane Planning for Modular Construction. *35Th International Symposium on Automation and Robotics in Construction (ISARC 2018)*