Mojtaba Noghabaei

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Education

North Carolina State University (NC State) **2022**
- **Ph.D.** Civil, Construction, and, Environmental Engineering

University of Tehran **2017**
- **B.S.** Civil and Environmental Engineering

Research Experience

Graduate Research Assistant (NC State) **2017-2018**
- Developing cutting edge applications with Unity3D enabled by Hololens and Fove for investigation of correlation between neurological signals and visual hazards
- Building Hololens application along with vision based IOT device for city of Raleigh's storm water monitoring
- Developed a VR tool for cost estimation purposes for improving customer satisfaction rate

Industry Experience

Programmer and VR developer Tecnosa Research Office, Tehran, Iran **2016 – 2017**
- Developed commercial VR models for residential buildings and VR tools for heavy crane simulation and crane technician's training
- Developed a BIM based bridge management system for enhanced maintenance scheduling using **Navisworks API** and metaheuristic Algorithms

Intern and Programmer Imen Sazeh Fadak, Tehran, Iran **2016 – 2017**
- Developed Sketchup and VR models for residential buildings

Programmer Aghigh, Tehran, Iran **2015 – 2016**
- Developed AR application for advertisement purposes

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, FORTRAN, JAVA, Navisworks API

Software Microsoft Visual Studio, Microsoft Project, Microsoft Office, AutoCad, **Unity3D**, Stingray, Sketchup, Etabs, Safe, Revit, Navisworks

Awards

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

Publications

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 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)*

Projects

- Cloud-based Immersive Remote Inspection System using UAV
- Developing an outdoor robotic system containing a ground robot and a custom-built blimp capable of autonomous navigation using visual sensors
- Development of a Bridge Maintenance System Using Bridge Information Modeling
- Pipe Overflow Prediction Model in Stormwater Networks and Visualization Using Mixed Reality
- Predicting the determinants of project failure in Pre-construction phase using statistical modeling of data
- Real-Time Cost Estimation in Virtual Reality
- Real-Time Image Localization and Registration with BIM using Perspective Alignment for Indoor Monitoring of Construction
- VR Crane Operator Training
- Waste elimination in construction purchasing process using Value Stream Mapping