

Reza Nazar Shahsavani

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Winnipeg, MB, Canada

SUMMARY

- M. Eng. in Structural Engineering from the University of Manitoba with immediate availability and eligible for an Engineer-in-Training (EIT) license.
- Extensive knowledge of the structural design of buildings, bridge structural performance, 3D modeling, structural analysis and dynamics, computer programming, technical report writing, and interpreting engineering drawings.
- Practical knowledge of building design codes such as the National Building Code of Canada (NBC), Manitoba Building Code, CSA A23, CSA S6, and CPCI Design Manual 5.

WORK EXPERIENCE

- **Structural Drafter and Designer, Splendid Homes Corporation** *May 2023- Nov. 2023*
 - Designed architectural and structural packages, demolition plans, and detailed 3D BIM models and renderings for over 10 residential projects using AutoCAD and Revit.
 - Verified truss layouts to conform to specifications.
 - Led Autodesk Revit training sessions for new hires.
- **Teaching Assistant of Bridge Engineering, CIVL 4032** *Jan. 2023- Apr. 2023*
University of Manitoba, Instructor: Dr. Graziano Fiorillo
- **Civil Engineering Intern, Dreamland Corporation** *May 2022- Aug. 2022*
 - Designed the architectural plan for two residential buildings and a data center using AutoCAD and Revit.
 - Animated building walkthroughs utilizing the Navisworks animator module.
 - Detected and resolved clashes by overlaying architectural, electrical, and mechanical plans using Navisworks.
 - Generated construction cost estimates, performed material takeoffs, conducted on-site visits and field reviews, inspected construction tasks to ensure compliance with project plans, and prepared technical reports.

TECHNICAL SKILLS

Modeling and Analysis	Revit, AutoCAD, Navisworks, MS Project, SAP2000, ETABS, SAFE, SPSS, BIM 360, Bluebeam, ArcGIS Pro, Office Suite (Excel, Word, and PowerPoint)
Programming Languages	Python, MATLAB, Dynamo, Fortran

EDUCATION

University of Manitoba	<i>Sep. 2022- May. 2024</i>
Master of Engineering in Structural Engineering, GPA: 3.88/4.5, Advisor: Dr. Graziano Fiorillo	
Recipient of International Graduate Student Entrance Scholarship (IGSES)	
Selected Course Work: Finite Element Analysis, Structural Health Monitoring, Plastic Analysis of Structural Frames, Virtual Design and Construction, Prestressed Concrete, and Behaviour of Reinforced Concrete Members.	
K. N. Toosi University of Technology	<i>Sep. 2019- Jun. 2022</i>
Master of Science in Construction Management, GPA: 3.88/4	
Selected Course Work: Project Scheduling and Control; Building Information Modeling; Infrastructure Asset Management; Construction Contracts; Financial Management.	
Shahid Beheshti University	<i>Sep. 2014- Feb. 2019</i>
Bachelor of Science in Civil Engineering, GPA: 3.01/4	

ACADEMIC PROJECTS

- **Automating Repetitive Revit Project Tasks Using Dynamo** *Jan. 2023- Apr. 2023*
Virtual Design and Construction coursework
 - [Demo: Dynamo](#)
 - Automated repetitive tasks in Revit projects by programming Dynamo to interpret task information from an Excel file, and enabling single-click generation of building elevations, floor plans, project views, and sheets.
- **Design and Analysis of a Footbridge Using SAP2000** *Sep. 2022- Dec. 2022*
Finite Element Analysis coursework
 - Developed a model of a footbridge in SAP2000 based on a detailed plan and elevation drawings.
 - Analyzed the bridge model to determine the first 20 natural frequencies and their corresponding periods, as well as forces, moments, and maximum vertical displacement under various load conditions.
 - Documented the modeling approach for each structural element (beam, column, frame, slab, bearing, and brace).
 - Justified the reliability and trustworthiness of the work through an analytical methodology.
- **Safety Zoning of Building Projects in Tehran Based on Public's Perception and Standard Safety Criteria Utilizing GIS** *Sep. 2020- Jun. 2022*
Master of Science Thesis Project
 - [Demo: Thesis Dashboard](#)
 - Captured 1,887 photos of 490 under-construction buildings in 22 municipal districts in the city of Tehran.
 - Conducted a survey of the public's perception regarding the safety of under-construction buildings.
 - Created two safety maps using ArcGIS to sort the municipal districts and depict a color spectrum based on the public's perception of safety (PPS) and standard safety criteria.
 - Compiled a correlation study between the PPS with standard safety criteria using SPSS.
- **Asset Management for a Bridge Network** *Feb. 2020- Jun. 2020*
Infrastructure Asset Management coursework
 - [Demo: Asset Management Dashboard](#)
 - Developed a comprehensive asset management plan for a bridge network consisting of 161 bridges.
 - Simulated the management plan utilizing a Discrete-Event Simulation (DES) library in Python.
 - Performed preventive maintenance, rehabilitation, and reconstruction investment analysis.
 - Conducted a study of the analysis methodology, including data analysis, development of maintenance alternatives and performance indicators, Life Cycle Cost Analysis (LCCA), and annual investment plan per asset.
- **Analysis and Design of a Sanitary Sewer Tunnel for the City of Edmonton** *Sep. 2019- Feb. 2020*
System Analysis and Design coursework
 - Simulated the process of a Tunnel Boring Machine (TBM) excavating a sanitary sewer tunnel utilizing a DES.
 - Created a framework in which a crane loads and installs liners, liners perform lining with precast concrete, a crane unloads liners and spoil, and a train carries the spoil to an offsite location.