

# Reza Nazar Shahsavani

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Winnipeg, MB, Canada

## SUMMARY

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- 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 analysis and dynamics, structural design of buildings, 3D modeling, Building Information Modeling (BIM), technical report writing, and interpreting engineering drawings.
- Practical knowledge of design codes such as the National Building Code of Canada (NBC), CSA A23.3, CSA S6 (CHBDC), and CPCI Design Manual.

## WORK EXPERIENCE

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- **Structural/Architectural Drafter, Splendid Homes Corp.** *May 2023- Nov. 2023*
  - Designed architectural and structural packages, demolition plans, and detailed 3D BIM models and renderings for over 10 residential wooden houses using AutoCAD and Revit.
  - Verified truss layouts to conform to specifications.
  - Led Autodesk Revit training sessions for new hires.
- **Teaching Assistant, University of Manitoba** *Jan. 2023- Apr. 2023*  
Bridge Engineering, Instructor: Dr. Graziano Fiorillo
- **Civil Engineering Intern, Dreamland Infrastructure Developments Co.** *May 2022- Aug. 2022*
  - Designed the architectural plan for two residential buildings and a data center using AutoCAD and Revit.
  - Generated construction cost estimates, performed material takeoffs, conducted on-site visits and field reviews, utilized MS Project to track progress and manage scheduling, and prepared technical reports.
  - Detected and resolved clashes by overlaying architectural, electrical, and mechanical plans using Navisworks.
  - Animated building walkthroughs utilizing the Navisworks animator module ([Demo](#)).

## TECHNICAL SKILLS

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<b>Modeling and Analysis</b>	SAP2000, ETABS, SAFE, Revit, AutoCAD, Navisworks, Bluebeam, MS Project, SPSS, ArcGIS, Office Suite (Excel, Word, and PowerPoint)
<b>Programming Languages</b>	Python, MATLAB, Dynamo

## EDUCATION

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<b>University of Manitoba</b>	<i>Sep. 2022- May 2024</i>
<b>Master of Engineering in Structural Engineering</b> , GPA: <b>3.88/4.5</b> , 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.	
<b>K. N. Toosi University of Technology</b>	<i>Sep. 2019- Jun. 2022</i>
<b>Master of Science in Construction Management</b> , GPA: <b>3.88/4</b> Selected Course Work: Project Scheduling and Control, Building Information Modeling, Infrastructure Asset Management, Construction Contracts, and Financial Management.	
<b>Shahid Beheshti University</b>	<i>Sep. 2014- Feb. 2019</i>
<b>Bachelor of Science in Civil Engineering</b> , GPA: <b>3.01/4</b>	

## ACADEMIC PROJECTS

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- **Automating Repetitive Revit Project Tasks Using Dynamo** ([Demo](#)) Jan. 2023- Apr. 2023  
*Virtual Design and Construction coursework*
  - 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** ([Demo](#)) Sep. 2020- Jun. 2022  
*Master of Science Thesis Project*
  - 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** ([Demo](#)) Feb. 2020- Jun. 2020  
*Infrastructure Asset Management coursework*
  - 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.
- **Architectural and Structural Design of a Residential Building** ([Demo](#)) Feb. 2020-Jun. 2020  
*Building Information Modeling (BIM) coursework*
  - Designed the architectural and structural plan of a residential building based on Level Of Development (LOD) 300 in Revit and animated the construction process using the Navisworks animator module.
  - Detected and resolved clashes by overlaying structural and sprinkler plans using Navisworks.
  - Created a Work Breakdown Structure (WBS) and performed detailed quantity takeoff using the Navisworks quantification module.
- **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.