Reza Nazar Shahsavani

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BIOGRAPHY

I am a M. Eng. student in Structural Engineering at the University of Manitoba. I hold a B. Sc. degree in Civil Engineering and a M. Sc. degree in Construction Management. I am interested in working with Building Information Modeling software such as Revit and Navisworks, and Structural Design software such as ETABS and SAP2000. I am proficient in Python programming.

WORK EXPERIENCE

- **Designer and Structural Drafter, Splendid Homes Corporation** *May 23-Present*

– Designed the architectural and structural plan for single-family wooden houses using CAD and Revit.

– Created 3D models and renderings for visualization.

- **Teaching Assistant of Bridge Engineering, CIVL 4032** *Jan. 23-Apr. 23*
University of Manitoba, Instructor: Dr. Graziano Fiorillo

- **Civil Engineering Intern, Dreamland Corporation** *May 22-Aug. 22*

Demo: Navisworks TimeLiner and Animator , Demo: Navisworks Animator , Demo: Navisworks Simulator

– Designed the architectural plan for residential buildings and a bank data center using CAD and Revit.

– Animated building walkthroughs utilizing Navisworks animator and walk tool.

– Detected clashes by overlaying architectural, electrical, and mechanical plans.

TECHNICAL SKILLS

Modeling and Analysis	Revit, AutoCad, Navisworks, MS Project, ETABS, SAP2000, Bluebeam ArcGIS Pro, SPSS
Programming Languages	Python, MATLAB, Dynamo, Fortran

EDUCATION

University of Manitoba *Sep. 22-Present*
Master of Engineering in Structural Engineering
Department of Civil Engineering, GPA: **4/4.5**

K. N. Toosi University of Technology *Sep. 19-Jun. 22*
Master of Science in Construction Management
Department of Civil Engineering, GPA: **3.88/4**

Shahid Beheshti University *Sep. 14-Feb. 19*
Bachelor of Science in Civil Engineering
Department of Civil Engineering, GPA: **3.01/4**

PROJECTS

- **Safety Zoning of Building Projects in Tehran Based on Public's Perception and Standard Safety Criteria Utilizing GIS** *Sep. 20-Jun. 22*
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 public's perception regarding safety of under construction buildings based on the images collected from such 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 study of correlation between the PPS with standard safety criteria by analyzing the safety maps.

– Developed an interactive Excel file and dashboard to illustrate project information dynamically.

- **Asset Management for a Bridge Network** *Feb. 20-Jun. 20*
  Infrastructure Asset Management coursework

– Demo: Asset Management Dashboard

– Developed a comprehensive asset management plan for a bridge network consisting of 161 bridges, considering bridges' attributes including bridge length, number of spans, maximum span length, condition rating, sufficiency rating, annual traffic growth rate, and replacement cost.

– Simulated the management plan utilizing a Discrete-Event Simulation (DES) library in Python.

– Conducted experiments and developed solutions for:
(i) Prioritizing bridges based on Annual Average Daily Traffic (AADT) and condition rate.
(ii) Analyzing the condition of bridges based on the annual deterioration rate.
(iii) Budget allocation and optimization considering annual fixed-budget allocation or allocating a large capital in the beginning with a lower annual budget allocation.

– Performed preventive maintenance, rehabilitation, and reconstruction investment analysis.

– Categorizing investments into preventive, rehabilitative maintenance, and replacement/ reconstruction.

– Derived the state of the asset inventory (quantity and condition).

– Developed a comprehensive study of the analysis methodology including data analysis, development of maintenance alternatives, Life Cycle Cost Analysis (LCCA), development of performance indicators, decision making and prioritization logic, and annual investment plan per asset.