

Roshan Panahi

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 [RoshanPanahi](#)

 [RoshanPanahi2019](#)

 [RoshanPanahi2019.github.io](#)

Education

Ph.D. Candidate, Construction Engineering and Management, Oregon State University, [Projects](#) 2019-2023
M.Eng, Computer Science, Oregon State University, [Coursework](#) 2021-2022
M.Sc, Construction Engineering, and Management, Iran University of Science and Technology 2018
B.Sc, Geomatics, Tabriz University 2015

Work Experience

Data Scientist Intern, [Skanska](#)

Sep. 2022-Present

At Skanska, I get involved in the daily tasks/meetings of project engineers, schedulers, safety inspectors, superintends, innovation team, and data analysts to learn and identify opportunities for scalable automation:

- Proposed idea, developed, and deployed a web application to reduce RoI. The web application aids design reviewers prevent design issues creep into construction phase. 20k RFI text records were cleaned, preprocessed, visualized, EDA performed using Power-BI, MySQL, Pandas. NLP, Computer Vision, Chat-GPT API used to match RFIs with drawings and summarize results. Flask used to develop the web portal. Product to be optimized, debugged, hosted on Skanska Server. User experience to be collected. Effectiveness of product to be evaluated, potentially improved in Q2, and Q3. [Code Here](#). [Paper Here](#).
- Answered questions related to project delay predictability using milestone delays. Cleaned, merged, preprocessed, binned, feature engineered, visualized, and tested correlation of schedule data from 256 projects using Seaborn, Scikit-Learn. Used ensemble of ML algorithms to predict delays. [Code Here](#).
- Proposed idea to automate out 30 seconds of scheduler staff time by automatically predicting the cause of delay using the log of weekly meetings with superintendent. EDA done on 1k+ records of comments from field crew, comments classified into 11 categories for delay using statistical tests, bag of words, and machine learning. [Code Here](#).

Project Engineering Intern, [Skanska](#)

Jul. 2022-Sep.2022

- Prepared meeting minutes, processed RFIs, prepared contracts.

Research & Development Engineer, <https://aradcmpioneers.ir/>

2016-2018

- Developed VR, and AR experiences for maintenance and progress monitoring.

Project Engineer, Arasharmeh Construction Management

2015-2018

Technical Skills

Programming Language: [Python](#), MATLAB, R, Shell Script, [C++](#),

Machine & Deep Learning: [Pytorch](#), Pandas, [OpenCV](#), SciKit-Learn, [NLTK](#), [CUDA](#), OpenCL

Data Visualization & Database: Power-BI, [Tableau](#), Matplotlib, [Seaborn](#), SQL

Web-Framework: [Flask](#)

Computer Graphics: Unity, Navisworks, Revit, AutoCAD, OpenGL, GLSL, Cloud Compare, Cyclone, Agisoft

Research Publication

- Roshan Panahi; Louis, J.; Aziere, N.; Podder, A.; Swanson, C., *Identifying Modular Construction Worker Tasks Using Computer Vision*, i3CE 2021, [Code Here](#), DOI: [10.1061/9780784483893.118](#)
- Roshan Panahi; Louis, J.; Podder, A.; Swanson, C., *Tracking Volumetric Units in Modular Factories for Automated Progress Monitoring Using Computer Vision*, Construction Research Congress 2022. [Code Here](#), DOI: [10.1061/9780784483961.086](#)
- Roshan Panahi; Louis, J.; Podder, A.; Swanson, C.; Pless, S., *Automated Progress Monitoring and Bottleneck Detection in Modular Construction Factories Using Computer Vision*, Sensors 2023. DOI: Forthcoming, [Preprint](#)
- Roshan Panahi; Louis, J.; Podder, A.; Swanson, C.; Pless, S., *Automated Assembly Progress Monitoring in Modular Construction Factories Using Computer Vision-based Instance Segmentation*, i3CE 2023. [Code Here](#) DOI: Forthcoming
- Roshan Panahi; Louis, J.; Podder, A.; Swanson, C.; Pless, S., *Automated Progress Monitoring in Modular Construction Factories Using Computer Vision and Building Information Modeling*, ISARC 2023. DOI: Forthcoming
- Roshan Panahi; Kivlin, J; Louis, J., *Request for Information (RFI) Recommender System for Pre-Construction Design Review Application Using Natural Language Processing, Chat-GPT, and Computer Vision*, i3CE 2023, [Code Here](#), DOI: Forthcoming
- Reviewer for the Journal of Advanced Engineering Informatics, and Construction Research Congress.