
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

Professional Experience

Data Scientist Intern, Skanska	Sep. 2023-Present
<ul style="list-style-type: none">Identified opportunities to leverage a large dataset of RFI data at the company to reduce future RFIs, cost, and delay. Cleaned 11000+ RFI records and performed EDA to identify the correlation among RFIs and projects using Power-BI, MySQL, and Pandas. Used NLP, Computer Vision, and Chat-GPT in the back end, and developed a web app using Flask to be hosted on the Skanska server in spring. Code and detail available here.Cleaned, visualized, and analyzed the scheduling dataset of 265 construction projects for Skanska to identify major contributing factors to project delay, the correlation between different factors, and to identify if the project team can predict the delays ahead of time. Code and detail available here.Performed EDA, and statistical tests, and used machine learning to identify the root cause of the project delays based on recorded text comments from the superintendent during weekly meetings with the scheduler.	
Project Engineering Intern, Skanska	Jul. 2023-Sep.2023
<ul style="list-style-type: none">Prepared meeting minutes, processed RFIs, prepared contracts	
Research & Development Engineer, https://aradcmpioneers.ir/	2016-2018
<ul style="list-style-type: none">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](https://doi.org/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](https://doi.org/10.1061/9780784483961.086)
- 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
- 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. Submitted
- Reviewer for the Journal of Advanced Engineering Informatics, and Construction Research Congress