Abdel Rahman Awawdeh, EIT

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# EDUCATION

**PhD in Civil Engineering (Candidate, expected to graduate in December 2024)** January 2021 – Present

University of Mississippi, Oxford, MS GPA: 4.00

*Related coursework:* Design with Geosynthetics, Advanced Foundation Engineering, Remote Sensing, Machine Learning, ANN, Programming with Python.

**Master of Engineering, Civil Engineering** September 2019 – July 2020

University of the Pacific, Stockton, CA GPA: 3.77

*Related coursework:* Advanced structural steel design, Building Information Modelling, and Engineering Risk Analysis.

**Bachelor of Science, Civil Engineering** September 2014 – August 2018

Jordan University of Science and Technology, Jordan. GPA: 3.81 (Ranked in Top 5%) *Related coursework:* Soil Mechanics, Foundation Engineering I&II, Bridge Engineering, Construction Management, and Steel Design.

# RELEVANT EXPERIENCE

**Civil Engineering, Shatec Engineering Consultants, LLC (CA, USA)** October 2020 – January 2021

* Analyzed seepage problems using SEEP/W software and provided reports with the results and the recommendations.
* Analyzed a soil settlement problem and provided a report with the reasons and the suggested solutions.
* Prepared a report about how to use computer software to predict the peak temperature in the

center of cast-in-place concrete piling.

* Analyzed a traffic accident on an intersection in LA, California and provided all a report on the status of the design of the intersection from an engineering point of view.

**Site Civil Engineering Training, LEEWAN Company (Jordan)** June 2018 – August 2018

* Evaluated site engineering plans and ensured field implementation by comparing engineering plans with completed work.
* Supervised field work by daily directing staff for what to do with work.
* Wrote weekly detailed progress reports for what had been done.

# Publications:

* Ghaffari Z, Easson G, Yarbrough LD, **Awawdeh AR**, Jahan MN, Ellepola A. Using Downscaled GRACE Mascon Data to Assess Total Water Storage in Mississippi Alluvial Plain Aquifer. Sensors. **2023**; 23(14):6428. <https://doi.org/10.3390/s23146428>.

*Contributed to the design of the research methodology and performed the data analysis using advanced statistical models.*

* Alshannaq AA, **Awawdeh AR**. Implementation of Machine Learning in Predicting Pin-Bearing Strength of Aged and Non-Aged Pultruded GFRP Composites. Journal of Composites for Construction. Forthcoming. <https://doi.org/10.1061/JCCOF2/CCENG-4483>.

*Led the application of machine learning techniques and co-authored the manuscript, focusing on the analysis and interpretation of complex data sets.*

# CLASS PROJECTS

## BS Graduation Projects I & II

**Objective:** Structural design of a multi-story reinforced concrete villa with a swimming pool.

* Designed and developed drawing and structural plans using AutoCAD that included foundations, columns, beams, walls, slabs, and detailing.
* Implemented SAP2000 and MATLAB in seismic load modelling by studying the location specifications and seismic maps for that location needed to generate the seismic loads.
* Utilized the results based on the ACI-318 and UBC codes specifications to include the seismic loads in the design.
* Created a walkthrough animation video using REVIT to easily present the project.
* Delivered and oral presentation on the whole project.

# Conferences:

- **Presentations at Conferences:**

* “Advancing Groundwater Prediction in the Mississippi Delta: Integrating Downscaled GRACE Data and Artificial Neural Networks” Poster presented at the American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15, 2023.
* “Scaling down GRACE data for smaller regions: utilizing artificial neural networks and climate data for enhanced hydrological predictions in the state of Mississippi” presented at Mississippi Water Resources Conference, Starkville, MS, March 28-30, 2023.
* “Downscaling GRACE Equivalent Water Thickness Data for Mississippi Using Neural Nets” poster presented at Mississippi Water Resources Conference, Starkville, MS, April 13, 2022.

- **Conferences Attended:**

* American Geophysical Union Fall Meeting, New Orleans, LA, December 13-17, 2021.
* Water Security Workshop, University of Alabama, Tuscaloosa, AL, October 24-27, 2022.

# Certifications and Exams:

* Passed the Fundamentals of Engineering (FE) Exam, September, 2023.

# Work Authorization

* Authorized to work in the US

# SKILLS

**Programming:** Python (Xarray, Pandas), TensorFlow, MATLAB.

**Tools:** GIS, AutoCAD, REVIT, SAP2000, ETABS, PROKON.

**Techniques**: Machine Learning, ANN, Statistical Inference, Data Analysis, Remote Sensing.

**Languages**: English, Arabic

# ADDITIONAL WORK EXPERIENCE

**Teaching/Research Assistant,** University of Mississippi, Oxford, MS January 2021 – Present

**Teaching Assistant,** University of the Pacific, Stockton, CA August 2019 – June 2020

**Instructor for Engineering Courses,** Genius Academy, Jordan June 2018 – December 2018