

Mubarak Saad Alrumaidhi, Assistant Professor

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Nationality	Kuwaiti	
LINKS	Orcid , Scholar	
PROFILE	Assistant Professor of Civil Engineering at the Public Authority for Applied Education and Training (PAAET) with 17 years of experience in civil engineering, specializing in transportation safety, urban mobility, and the application of data-driven and artificial intelligence methods. Alumnus of Virginia Tech and the University of Florida, with experience translating academic research into practical and sustainable engineering solutions. Committed to advancing engineering education and evidence-based transportation safety improvements in Kuwait.	
EMPLOYMENT HISTORY		
Jun 2024 — Present	Assistant Professor in the Civil Engineering Department at the College of Technological Studies, The Public Authority of Applied Education and Training	Kuwait City
	- Teach undergraduate courses in transportation engineering, road safety, and civil engineering applications. - Contribute to curriculum development and ABET accreditation processes within the Civil Engineering Department. - Supervise student research and applied projects in transportation safety and urban mobility.	
Sept 2014 — Jan 2020	Lecturer in the Civil Engineering Department at the College of Technological Studies, The Public Authority of Applied Education and Training	Kuwait City
	- Chaired the ABET Committee during the department’s inaugural accreditation process, contributing to the development and implementation of accreditation standards and supporting documentation. - Advised and mentored students on academic progress, career pathways, and professional development.	
Feb 2011 — Aug 2013	Site Engineer, Ministry of Public Works	Kuwait City
	Supervised construction activities for the Jaber Al-Ahmad Hospital project as a Site Engineer in the Mega Projects Department at the Ministry of Public Works.	
Dec 2009 — Jan 2011	Trainee, Kuwait Fund for Arab Economic Development	Kuwait City
	- Completed a structured engineering training program consisting of 13 technical courses in Kuwait, six months of practical training in the United States, and three months of applied training in Kuwait. - Gained exposure to international engineering practices, project coordination, and professional engineering standards.	
EDUCATION		
Jan 2020 — May 2024	Ph.D. in Civil Engineering, Virginia Tech	Blacksburg
	GPA: 4.0/4.0 Dissertation: <i>Evaluating Factors Contributing to Crash Severity Among Older Drivers: Statistical Modeling and Machine Learning Approaches</i> - Conducted advanced statistical and machine learning analyses to examine factors contributing to crash severity among older drivers. - Published three peer-reviewed journal articles based on doctoral research. - Delivered two lectern presentations at the 2024 Transportation Research Board (TRB) Annual Meeting. - Presented two research posters at the Graduate and Professional Student Senate (GPSS) Research Symposium, Virginia Tech, in 2023 and 2024.	

Aug 2013 — Aug 2014

Master of Science in Civil Engineering, University of Florida

Gainesville

- **GPA:** 3.74/4.0

Sept 2004 — Jun 2009

Bachelor of Science in Civil Engineering, Kuwait University

Kuwait City

- **GPA:** 3.5/4.0

Active Member: American Society of Civil Engineers (ASCE), Kuwait Chapter.

Awards and Honors

- Paul E. Torgersen Research Excellence Award, Virginia Tech – Awarded for Best Doctoral Dissertation in the College of Engineering, 2024.

Service and Leadership

- Peer Reviewer for Journal of Transport Geography, Transportation Research Record, Scientific Reports, Journal of Engineering Research, and Hydrological Processes.
- Member of the Judging Committee for the Sustainable Innovation Award at the Kuwait Sustainability Solutions Forum, 2024 and 2025.
- Chair of the Academic Accreditation Committee, Civil Engineering Department, during the ABET Accreditation Achievement Process 2016/2017.
- Chair of the Bachelor's Program Committee, Civil Engineering Department, 2024/2025 and 2025/2026.
- Coordinator of the Curriculum Committee, Civil Engineering Department, 2024/2025.
- Member of the Recruitment Committee, Civil Engineering Department, 2024/2025.
- Member of the Scholarship Committee at the Dean's Office, College of Technological Studies, 2024/2025.
- Member of the Scholarship Committee, Civil Engineering Department, 2025/2026.
- Member of the Committee for Reviewing Cases of Cheating in Examinations at the Dean's Office, College of Technological Studies, 2025/2026.

Research Interests

- Transportation Safety, Crash Severity Analysis, and Vehicle Environmental Impact.
- Sustainable Urban Mobility, Electric Vehicles (EVs), and Smart Cities.
- Machine Learning and Artificial Intelligence Applications in Transportation.
- Multilevel and Structural Equation Modeling Applications in Transportation.

Membership

1. Transportation Research Board (TRB)
2. Kuwait Society of Engineers (KSE)
3. Kuwait Society for Traffic Safety (KSTS)
4. The Institute of Transportation Engineers (ITE)
5. The American Society of Civil Engineers (ASCE)

Publications

1. Alrumaidhi, M.; Rakha, H.A. Factors Affecting Crash Severity among Elderly Drivers: A Multilevel Ordinal Logistic Regression Approach. *Sustainability* **2022**, *14*, 11543. <https://doi.org/10.3390/su141811543>.
2. Alrumaidhi, M.; Farag, M.M.G.; Rakha, H.A. Comparative Analysis of Parametric and Non-Parametric Data-Driven Models to Predict Road Crash Severity among Elderly Drivers Using Synthetic Resampling Techniques. *Sustainability* **2023**, *15*, 9878. <https://doi.org/10.3390/su15139878>.
3. Alrumaidhi, M.; Rakha, H.A. An Econometric Analysis to Explore the Temporal Variability of the Factors Affecting Crash Severity Due to COVID-19. *Sustainability* **2024**, *16*, 1233. <https://doi.org/10.3390/su16031233>.
4. Alazemi, F.; Alazmi, A.; Alrumaidhi, M.; Molden, N. Predicting Fuel Consumption and Emissions Using GPS-Based Machine Learning Models for Gasoline and Diesel Vehicles. *Sustainability* **2025**, *17*, 2395. <https://doi.org/10.3390/su17062395>.
5. Almatawah, J.; Alrumaidhi, M.; Matar, H.; Altemeemi, A.; Alhubail, J. An Interpretable Machine Learning Framework for Urban Traffic Noise Prediction in Kuwait: A Data-Driven Approach to Environmental Management. *Sustainability* **2025**, *17*, 8881. <https://doi.org/10.3390/su17198881>.
6. Alsumaiei, A.; Alrumaidhi, M. Enhancing Soil Water Prediction in Arid Climates Using

Conference Presentations

- Transportation Research Board (TRB) Annual Meeting, Washington, D.C., 2024.
- Graduate and Professional Student Senate (GPSS) Research Symposium, Virginia Tech, 2023 and 2024.

LANGUAGES	Arabic	Native speaker	English	Highly proficient
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SKILLS

Methodologies & Core Competencies

- Data Analysis; Machine Learning; Statistical Modeling; Crash Severity Analysis; Transportation Safety Analysis; Multilevel and Structural Equation Modeling.

Programming Languages

- R; Python; MATLAB; Stata; SPSS; Minitab; JMP.

Transportation and Simulation Software

- VISSIM; traffic data processing; GPS-based data analysis; field traffic and safety data analysis.

General & Professional Tools

- Microsoft Office Suite.