

PERSONAL INFORMATION

**Dr. Danish Farooq**



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Sex Male | Date of birth 27/11/1988 | Nationality Pakistani

EDUCATION AND TRAINING

- 1 Sep 2016-24 Sep 2020 PhD in Transportation Engineering  
Budapest University of Technology and Economics, Budapest (Hungary)
- 1 Sep 2013-14 July 2015 Master's degree in Civil Engineering (Specialization: Transportation Engineering)  
UET Taxila, Pakistan
- 1 Sep 2008-13 July 2012 Bachelor's degree in Civil Engineering  
UET Taxila, Pakistan

WORK EXPERIENCE

**COMSATS University Islamabad (CUI), Wah campus**

- Assistant Professor (01 August 2021 to till date)
- Lecturer (27 Jan 2016 to 31 Aug 2016 & 28 Oct 2020 to 31 July 2021)
  - Subjects: Highway Engineering, Traffic Engineering and Safety

**University of Lahore (UOL), Islamabad campus**

- Lecturer (Feb 2015 to Jan 2016)
  - Subject: Transportation Engineering, Environmental Engineering

Supervised BS final year project:

- Traffic Flow Analysis and Solutions to Ease Traffic Flow at Unsignalized Taxila Intersection
- Enhancing Public Transportation Accessibility through GIS-Based Multi-Modal Integration
- Estimating the cost-effectiveness and durability of Cement Treated Base(CTB) in road construction

PERSONAL SKILLS

Mother tongue(s) Urdu

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B1	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient use r  
 Common European Framework of Reference for Languages

Communication skills

- Good communication skills gained through working with international colleagues

Additional information

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|----------------------------|---|
| Research area              | <ul style="list-style-type: none"> <li>- Vehicles detection, segmentation and classification for autonomous vehicles</li> <li>- Transport modelling using GIS</li> <li>- Driver behaviour and road safety</li> <li>- MCDM techniques application in traffic safety systems</li> <li>- Intelligent Transportation system</li> </ul>  |
| Research Interest          | <ul style="list-style-type: none"> <li>- Developing and evaluating the performance of self-driving models using yolov AI tool.</li> <li>- Development of reliable traffic flow and driver behavior models by using realistic simulation studies to propose solutions for smart urban mobility.</li> <li>- Implementation of decision support systems and other evidence based applications to support urban mobility safety strategies.</li> <li>- Promotion of public transport as a less risky means of urban smart mobility.</li> <li>- Reinventing urban road infrastructure with improved priorities for the safety of vulnerable road users.</li> </ul>                   |
| Awards                     | <ul style="list-style-type: none"> <li>- Award of Honorarium to acknowledge performance at COMSATS University for FY 2023-2024.</li> <li>- Full time PhD Scholarship from Hungarian government (Stipendium Hungaricum Scholarship)</li> <li>- Best paper award in 3rd World Congress CSEE '18, 2018</li> <li>- Best research paper award as co-author in Mathematics journal.</li> <li>- Merit scholarship for Master in Engineering program 2013-2015, University of Engineering &amp; Technology, Taxila, Punjab, Pakistan</li> </ul>   |
| Current Projects           | <ul style="list-style-type: none"> <li>- A new business model strategy of carpooling technology in Pakistan, in partnership with Hungary for Achieving Sustainable Urban Mobility</li> <li>- Assessment of the university's readiness and capacity to support a research center for development of Smart Cities in Pakistan</li> <li>- Investigation of the Performance of Plastic Waste Modified Asphalt Mixtures in Roads Using Different Aggregate Gradations in Pakistan</li> <li>- Parking optimization design for faculty and student lots for CUI Wah campus</li> </ul>  |
| Professional References    | <ul style="list-style-type: none"> <li>- Dr. Adam Torok, Professor, Vice dean for scientific and international affairs, BME, Hungary (Email: <a href="mailto:torok.adam@kjk.bme.hu">torok.adam@kjk.bme.hu</a>)</li> <li>- Dr. Janos Juhasz, Associate Professor, Budapest University of Technology and Economics (Email: <a href="mailto:janos.juhasz@emk.bme.hu">janos.juhasz@emk.bme.hu</a>)</li> <li>- Dr. Asim Farooq, Head of Department &amp; Assistant Professor at Center of Excellence in Transportation Engineering: Pak-Austria Fachhochschule Pakistan (Email: <a href="mailto:asim.farooq@fcm3.paf-iaast.edu.pk">asim.farooq@fcm3.paf-iaast.edu.pk</a>)</li> </ul> |
| Editor and Journal Referee | <p>-</p> <p>Member of Editorial board of journal Engineering Applications of Artificial Intelligence</p> <p>Periodica Polytechnica Transportation Journal</p> <p>Cogent Engineering Journal</p> <p>Health Science Reports Journal</p> <p>Advances in Civil Engineering Journal</p>  |

## List of Publications

- Moslem, S., **Farooq, D.**, Esztergár-Kiss, D., Yaseen, G., Senapati, T., Deveci, M., A Novel Spherical Decision-Making Model for Measuring the Separateness of Preferences for Drivers' Behavior Factors Associated with Road Traffic Accidents, *Expert Systems with Applications* (2023).
- Alshehri, A. H., Pervez, A., Hussain, M., **Farooq, F.**, Hussain, E. Examination of factors associated with the temporal stability assessment of crash severity by using generalised linear model—A case study. *PLoS ONE* 19(4): e0299094.
- Al-Ahmadi H. M., Jamal A, Ahmed T, Rahman M. T., Reza I, **Farooq D.** Calibrating the Highway Safety Manual Predictive Models for Multilane Rural Highway Segments in Saudi Arabia. *Arabian Journal for Science and Engineering*, 2021.
- Jamal A., Zahid M., Rahman M. T., Al-Ahmadi H. M., Almoshaogeh M., **Farooq D.**, Ahmad M. Injury severity prediction of traffic crashes with ensemble machine learning techniques: a comparative study. *International Journal of Injury Control and Safety Promotion*, 2021.
- Farooq, D.** (2024). Application of Pythagorean Fuzzy Analytic Hierarchy Process for Assessing Driver Behavior Criteria Associated to Road Safety. *Journal of Soft Computing and Decision Analytics*, 2(1), 144-158.
- Farooq, D.**, Juhasz. J. Simulation-Based Analysis of the Effect of Significant Traffic Parameters on Lane Changing for Driving Logic “Cautious” on a Freeway. *Sustainability*, 11, 5976, 2019.
- Farooq, D.**, Moslem, S. Duleba, S. Evaluation of driver behavior criteria for evolution of sustainable traffic safety. *Sustainability*, 11, 5976, 2019.
- Farooq, D.**, Moslem, S., Faisal Tufail, R., Ghorbanzadeh, O., Duleba, S., Maqsoom, A., Blaschke, T. Analyzing the Importance of Driver Behavior Criteria Related to Road Safety for Different Driving Cultures. *International Journal of Environmental Research Public Health* 2020, 17, 1893.
- Moslem, S., **Farooq, D.**, Ghorbanzadeh, O., Blaschke, T. Application of AHP-BWM Model for Evaluating Driver Behaviour Factors Related to Road Safety: A Case Study for Budapest City. *Symmetry* 2020, 12(2), 243.
- Moslem, S.; Gul, M.; **Farooq, D.**; Celik, E.; Ghorbanzadeh, O.; Blaschke, T. An Integrated Approach of Best-Worst Method (BWM) and Triangular Fuzzy Sets for Evaluating Driver Behavior Factors Related to Road Safety. *Mathematics* 2020, 8, 414.
- Farooq, D.**; Moslem, S. Estimating Driver Behavior Measures Related to Traffic Safety by Investigating 2-Dimensional Uncertain Linguistic Data—A Pythagorean Fuzzy Analytic Hierarchy Process Approach. *Sustainability* 2022, 14, 1881.
- Moslem, S.; **Farooq, D.**; Jamal, A.; Almarhabi, Y.; Almoshaogeh, M.; Butt, F.M.; Tufail, R.F. An Integrated Fuzzy Analytic Hierarchy Process (AHP) Model for Studying Significant Factors Associated with Frequent Lane Changing. *Entropy* 2022, 24, 367.
- Aslam, B.; Maqsoom, A.; Khalil, U.; Ghorbanzadeh, O.; Blaschke, T.; **Farooq, D.**; Tufail, R.F.; Suhail, S.A.; Ghamisi, P. Evaluation of Different Landslide Susceptibility Models for a Local Scale in the Chitral District, Northern Pakistan. *Sensors* 2022, 22, 3107.
- Nawaz, M.M.; Khan, S.R.; Farooq, R.; Nawaz, M.N.; Khan, J.; Tariq, M.A.U.R.; Tufail, R.F.; **Farooq, D.**; Ng, A.W.M. Development of a Cost-Based Design Model for Spread Footings in Cohesive Soils. *Sustainability* 2022, 14, 5699.
- Tufail, R. F.; Naeem, M. H.; Ahmad, A.; Waheed, H.; Majdi, A.; **Farooq, D.**; Maqsoom, A.; Butt, F. Evaluation of the fresh and mechanical properties of nano-engineered Self Compacting Concrete containing graphite Nano/micro platelets. *Case Studies in Construction Materials*. 2022, e01165.
- Tufail, R. F.; **Farooq, D.**; Javed, M. F.; Mehmood, T.; Maqsoom, A, Ashraf, H.; Deifalla, A. F.; Ahmad J. Prediction of the rubberized concrete behavior: A comparison of gene expression programming and response surface method. *Science and Engineering of Composite Materials* 2023; 30: 20220222.
- Hussan, S., Kamal, M. A., Hafeez, I., **Farooq, D.**, Ahmad, N., & Khanzada, s. Statistical evaluation of factors affecting the laboratory rutting susceptibility of asphalt mixtures. *International Journal of Pavement Engineering*. Volume 20, 2017 - Issue 4.
- Farooq, D.**, Akram, T. Traffic Flow Analysis and Solutions to Ease Traffic Flow at Unsignalized Taxila Intersection. *Periodica Polytechnica Transportation Engineering*, 2018.
- Farooq, D.**, Moslem, S. Evaluation and ranking of Driver Behavior Factors Related to Road Safety by Applying Analytic Network Process. *Periodica Polytechnica Transportation Engineering*, 2019.
- Farooq, D.**, Juhasz. J. An investigation of speed variance effect on lane-changing for driving logic “cautious” on highways. *Advances in Transportation Studies: an international Journal, Section B* 51, 2020.
- Farooq, D.**, Juhasz. J. In-Depth investigation of contributing Factors to Car-Motorcycle Accidents in Budapest City. *Romanian journal of transport infrastructure*, Vol.8, No.2, 2020.

**Farooq, D.**, Moslem, S., Tufail R.F. Estimation of driver behavior criteria affecting road safety by the Analytic Hierarchy Process Applications. *International Journal of Traffic and Transport engineering*, 2019.

**Farooq, D.**, Juhasz. J. Simulation analysis of contributing factors to rider visibility issues for car-motorcycle Accidents. *Periodica Polytechnica Transportation Engineering*, 2019.

**Farooq, D.**, Juhasz. J. Analysis of Young Driver Behaviour related to Road Safety Issues in Pakistan and Hungary. *International Journal of Civil Infrastructure (IJCI)*. Volume 1, Year 2018.

Maqsoom, A., Aslam B., Khalil K., Ghorbanzadeh, O., Ashraf H., Tufail R.F., **Farooq D.**, Blaschke T. A GIS-based DRASTIC Model and an Adjusted DRASTIC Model (DRASTICA) for Groundwater Susceptibility Assessment along the China-Pakistan Economic Corridor (CPEC) Route. *ISPRS Int. J. Geo-Inf.* 2020, 9, 332.

Maqsoom, A., Aslam, B., Hassan, U., Kazmi, Z. A., Sodangi M., Tufail R. F., **Farooq D.** Geospatial Assessment of Soil Erosion Intensity and Sediment Yield Using the Revised Universal Soil Loss Equation (RUSLE) Model. *ISPRS Int. J. Geo-Inf.* 2020, 9, 356.

Aslam, B., Maqsoom, A., Shahzaib, Kazmi, Z. A., Sodangi, M., Anwar, F., Bakri, M. H., Tufail, R. F., **Farooq, D.** Effects of Landscape Changes on Soil Erosion in the Built Environment: Application of Geospatial-Based RUSLE Technique. *Sustainability*, 2020, 12, 5898.

**Farooq, D.**, Juhasz. J. Statistical Evaluation of Risky Driver Behavior Factors that Influence Road Safety based on Drivers Age and Driving Experience in Budapest and Islamabad. *European Transport \ Trasporti Europei (2020) Issue 80, Paper n° 2.*

**Farooq, D.**; Moslem, S.; Jamal, A.; Butt, F.M.; Almarhabi, Y.; Faisal Tufail, R.; Almoshaogeh, M. Assessment of Significant Factors Affecting Frequent Lane-Changing Related to Road Safety: An Integrated Approach of the AHP- BWM Model. *Int. J. Environ. Res. Public Health*, 2021, 18, 10628.

Tufail, R. F., Feng, X., **Farooq, D.**, Abdelmelek, N., Lublóy, É., Maqsoom, A. Behavior and Strength Predictions for CFRP Confined Rubberized Concrete under Axial Compression, *Periodica Polytechnica Civil Engineering*, 2021.

**Farooq, D.**, Tufail, R. F., Ali, M., Iqbal, H., Tariq, A. R. (2024) "Investigation of Traffic Issues at Unsignalized Taxila Intersection and their Countermeasures", *Periodica Polytechnica Transportation Engineering*,

### **Publications in international conferences proceedings:**

**Farooq, D.**, Moslem, S. A Fuzzy Dynamical Approach for Examining Driver Behavior Criteria Related to Road Safety. *IEEE, SCSP, Prague*, 2019.

**Farooq, D.**, Juhasz. J. Analysis of Young Driver Behaviour related to Road Safety Issues in Pakistan and Hungary. *Proceedings of the 3rd World Congress on Civil, Structural, and Environmental Engineering (CSEE'18)*. Budapest, Hungary - April 8 - 10, 2018.

**Farooq, D.**, Juhasz. J. In-depth investigation of driver/rider behavior in car-motorcycle accidents. *Conference on Transport Sciences Győr, Hungary* 2018.

### **Book Chapter:**

Moslem S., **Farooq D.**, Karasan A. (2022) Evaluating Driver Behavior Criteria Connected to Road Safety by Considering 2-Dimensional Uncertain Linguistic Data. In: Kahraman C., Cebi S., Cevik Onar S., Oztaysi B., Tolga A.C., Sari I.U. (eds) *Intelligent and Fuzzy Techniques for Emerging Conditions and Digital Transformation*. INFUS 2021. *Lecture Notes in Networks and Systems*, vol 307. Springer