

Faraz Abbas

Karachi Pakistan

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Education

NED University of Engineering and Technology

BE in Civil Engineering

Karachi, Pakistan

Oct 2018 - Oct 2022

Government Degree College Malir Cantt

Higher Secondary Certificate

- Passed with A-Grade

Karachi, Pakistan

June 2016 - July 2018

Research Interest

Intelligent Transportation Systems (ITS)

Traffic simulation methodologies

Optimization of the transportation system

Integration of Image Processing, AI, and machine learning in transportation

Journal Publications

Ahmed, A., Khan, F., SFA Rizvi, Ahmad, F and Shehwar, Dur. On the Level of Service Criteria of Urban Arterials for Heterogeneous and Undisciplined Traffic Streams. Transportation Research Board. (Accepted for TRB Conference January 2024)

Ahmed, A., A Ahmed, SFA Rizvi and Ahmad, F. Modelling Merging Behavior of Drivers in Heterogeneous Traffic at Roundabouts. Transportation Research Board. (Under Review)

Undergraduate Thesis Co-Supervision

Advanced Signal Timing Synchronization and Optimization via Image Processing Techniques (Ongoing)

Effect of Traffic Composition on Traffic Flow

Detailed Evaluation of Urban Arterial of Karachi

Work Experience

ATLAS LAB NEDUET

<https://atlas.neduet.edu.pk/>

Karachi, Pakistan

Research Assistant

Nov 2022 - Current

- Prepare road improvement plans for 10 major roadways including NH5, Shahrah-e-Faisal and M.A Jinnah road etc under Toyota Company CSR project. (<http://trip.neduet.edu.pk/>)
- Proficient in operating the DJI Phantom 4 drone and utilizing Pix4D, DroneDeploy, and Agisoft for mission planning and execution.
- Experienced in capturing comprehensive road inventory data through effective drone operations.
- Develop Existing and proposed road geometry using Civil 3D.
- Real time traffic Count Surveys using Cameras and UAV.
- Manual extraction of essential parameters from videos i.e Speed, Flow and Density for the development of fundamental diagrams and traffic simulations.
- Develop simulation models on PTV VISSIM of both existing and proposed scenarios.
- Optimization and Synchronization of Signals using PTV VISSIM.
- Conduct Road Safety Audit.
- Supervise undergraduate thesis.
- Supervise and mentor interns
- Contribute to the research and writing of a paper.

Nordtec International

Karachi, Pakistan

Site Internee

Dec 2021 - Feb 2022

- Worked on BOQ, reading drawings and sketching of drawings by using AutoCAD.
- Prepared BBS for column, beam and Slab.
- Conducted detailed analysis and calculations to estimate the required quantity of steel and concrete.

University Projects

Modeling behavior of traffic at roundabout

Karachi, Pakistan

NED University of Engineering and Technology

July 2021 - Mar 2022

- Studied merging behavior of motorcycle and car at roundabout.
- Reconnaissance surveys of more than 10 roundabout of Karachi City has been done in order to find out study area.
- Used UAV drone to record live traffic stream of roundabout.
- Manual extraction of essential parameters from videos i.e Speed, Flow and Density for the development of fundamental diagrams and traffic simulations.
- Developed regression models
- One of the best transportation software "PTV VISSIM" is used in modeling of roundabout.

Volunteering

Institute of Transportation Engineers (ITE) NEDUET Society

Karachi, Pakistan

NED University of Engineering and Technology

Jun 2019 - Feb 2020

- Arranged the event under the title "Intelligent Transport System (ITS)"
- Demonstrated strong leadership skills by effectively delegating tasks to team members, providing guidance and support as needed, and ensuring the project was completed on time and within budget.
- Coordinated with external stakeholders, including industry professionals and government agencies, to secure sponsorship and support for the event.
- Managed event logistics, such as venue booking, equipment rental, and catering arrangements.

Mathematics Teacher

Karachi, Pakistan

mathlers Society

Jan 2017 - current

- Taught mathematics just like a game to 150+ secondary school students in different regions of Karachi.
- Managed different functions like planning, conducting as being a member of the working committee.

Tips Foundation

Karachi, Pakistan

Non-Profit Coaching Centre

Dec 2019 - current

- TIPS foundation is an organization that provides education to underprivileged children.
- Instructed 70+ students and helped them pursuing professional degrees.
- Supported student teachers by mentoring on classroom management, lesson planning, and activity organization
- I was also involved in conducting examinations of various subjects on campus
- Developed and optimized a rich learning environment by capitalizing on diverse engagement strategies and enriching teaching techniques, nominated as the best teacher

Skills

Programming Python and MATLAB.

Miscellaneous Microsoft Office, MS Project, ETABS, MATLAB, AutoCAD, Civil 3D, PTV VISSIM, Primavera.

Soft Skills Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation

Certifications

- 2023 **Certificate of appreciation-Organizer**, Workshop on PTV VISSIM
- 2023 **Capstone: Retrieving, Processing, and Visualizing Data with Python**, University of Michigan
- 2023 **Python Data Structures**, University of Michigan
- 2023 **Programming for Everybody (Getting Started with Python)**, University of Michigan
- 2023 **Python for Data Science, AI**, IBM
- 2023 **Management of Urban Infrastructure**, École Polytechnique Fédérale de Lausanne
- 2023 **Smart Cities – Management of Smart Urban Infrastructures**, École Polytechnique Fédérale de Lausanne
- 2021 **Certificate of appreciation**, Road Safety Seminar
- 2023 **Multiple Linear Regression with scikit-learn**, Coursera
- 2023 **Specialization in Leading: Human Resource Management and Leadership Specialization**, macquarie University

Languages

English B2 Level

Urdu Native proficiency

References available upon request.