



MIRZA MUHAMMAD  
HARRIS BAIG  
(Civil Engineer)

## WORK EXPERIENCE

September 7<sup>th</sup>,  
2022- Present

### Sheher Saaz (Pvt.) Ltd. Lahore, Pakistan (Transportation Engineer)

- Deciding Traffic & Transportation Survey type, location & duration
- Preparing Comprehensive Mobility for cities of flat terrain and hilly terrain areas and Regional Connectivity Plans at district and Provincial level.
- Capacity Improvement Plans for urban arterials by forecasting traffic growth for horizon year and determining LOS, addition of carriageway lanes, dualization, or Travel Demand Management (TDM) techniques to improve capacity by suggesting alternate mode of sustainable travel.
- Marking new roads using Trip Generation rates for future development to ensure connectivity, accessibility and complement existing road network.
- Developing Public Transportation Network with main route, feeder routes, and paratransit service routes with location of bus terminals, bus stops, headway, capacity, population served in peak hour and required sidewalk width.

## EDUCATION

2018-2022

### BS (Civil Engineering)

National University of Computer & Emerging Sciences (FAST-NUCES), Lahore  
CGPA: 3.20/ 4

2015-2017

### Higher Secondary Education

Fazaia Intermediate College, Munir Road Lahore

2013-2015

### Secondary Education

Fazaia Intermediate College, Munir Road Lahore

## ACADEMIC HONORS

July 2022- July 2023

### RESEARCH ASSISTANT

#### (Article: Measuring the 15-Minute City in Lahore)

- Identification of research problem, research gap, literature review and finalizing research methodology after consultations with Professor
- Performing Network Analysis to develop 15-minute Isochrones in GIS software.
- Conducting tabular data analysis in Excel and GIS, Developing images, research article writeup and formatting.

January-June 2022

### TEACHER ASSISTANT

#### (Transportation Planning & Engineering Course)

- Designed a Complex Engineering Problem (CEP) to apply 4-Step Transportation Model to identify most congested route and provide a solution to reduce congestion.
- Marked Traffic Analysis Zones (TAZs), provided numerical, graphical, and tabular correlations for socio-economic characteristics and employment trend for Trip Generation Step. Specified necessary information for developing OD matrix and highway performance functions for Trip Distribution and Route Assignment Steps.
- Provided an alternate route for students to access its effect on Road network LOS and comment if it aids in reducing congestion on critical road sections.
- Developed Course Learning Outcomes (CLO), Bloom Taxonomy Levels (BTL), guided students for comprehension of CEP, and graded project assignments.

## RESEARCH INTERESTS

- Connected and Autonomous Vehicles (CAVs)
- Road geometry changes to accommodate multimodal transportation.
- Mobility as a Service (MaaS)
- Travel Behavior
- Intelligent Transportation Systems

## TECHNICAL SKILLS

- SIDRA Intersection  
★★★★★
- ArcMap/ ArcGIS  
★★★★★
- C++  
★★★★
- Python  
★★★
- MATLAB  
★★★★
- Microsoft Office  
★★★★★
- AutoCAD  
★★★★★
- PTV VISUM  
★
- PTV VISSIM  
★

CORE SKILLS		EXTRA-CURRICULARS & VOLUNTEER WORK	
<ul style="list-style-type: none"> <li>Critical Thinking</li> <li>Problem Solving</li> <li>Communication Skills</li> <li>Teamwork</li> <li>Leadership</li> <li>Time Management</li> <li>Active Listening</li> <li>Flexibility &amp; Adaptability</li> </ul>		2021- 2022	<b><u>EVENT MANAGEMENT HEAD, FAST CARE SOCIETY</u></b> <ul style="list-style-type: none"> <li>Able to manage and lead a team of 20 people to accomplish necessary tasks for successful events of diverse nature such as Blood donation drive, Clothes donation drive, Breast Cancer Awareness Day, and Care-for-All charity fund raising event.</li> </ul>
		June-Nov 2022	<b><u>ALKHIDMAT FOUNDATION PAKISTAN</u></b> <ul style="list-style-type: none"> <li>A 60-hours Volunteer Community Service Internship for the welfare of society where I partook in Tree plantation drive, food, and clothes donation drive.</li> </ul>
		2017- onwards	<b><u>TEACHING EXPERIENCE</u></b> <ul style="list-style-type: none"> <li>Provide part-time home tuition to students at Middle School, High School, College, and University level.</li> <li>Prowess in Subjects: Mathematics, Physics, Chemistry, Probability &amp; Statistics, Economics, Programming (C++), Calculus &amp; Differential Equations</li> </ul>
LANGUAGES		August- September, 2022	<b><u>LAHORE DEVELOPMENTAL AUTHORITY (LDA)</u></b> <b><u>(Intern Site Engineer)</u></b> <ul style="list-style-type: none"> <li>One month Internship at Overpass construction site near Sheranwala gate/ 1-Moria Pull, Lahore</li> <li>Learned about Traffic Management at Construction Site, Construction Process, and Importance of Transportation Infrastructure in aiding congestion mitigation.</li> </ul>
<ul style="list-style-type: none"> <li><b><u>ENGLISH</u></b> (Full professional proficiency)</li> <li><b><u>URDU</u></b> (native)</li> <li><b><u>GERMAN</u></b> (beginner)</li> </ul>		REFERENCES	
<b>HOBBIES &amp; INTERESTS</b> <ul style="list-style-type: none"> <li>Watching Wrestling</li> <li>Playing Video Games</li> <li>Novel &amp; Book Reading</li> <li>Teaching</li> <li>Travelling</li> <li>Sports: Cricket, Badminton, Table Tennis etc.</li> </ul>		Available on demand.	