

# MUHAMMAD HADI ARZOO

Email ID: hadiarzoo@cloud.neduet.edu.pk

## EDUCATION

<b>Ph.D:</b> Earthquake Engineering, NED University of Engineering and Technology	<b>(In Progress)</b>
<b>ME:</b> Civil Engineering ( <b>Specialisation:</b> Geotechnical Engineering), NED University	(2019)
<b>BE:</b> Urban & Infrastructure Engineering, NED University	(2016)
<b>HSC:</b> Govt. Degree College Malir Cantt	(2012)
<b>SSC:</b> Young Citizen Model Secondary School	(2010)

## WORK EXPERIENCE

### Soil Testing Services (STS), Pakistan

**Position:** Project Engineer      **Duration:** Feb 2017 to Feb 2019

#### Major Responsibilities:

- Preparation of Technical reports for onshore and offshore projects.
- Meeting and dealing with clients to resolve the issues of the projects.
- Analysis and modelling by using Plaxis 3D
- Analysis for bearing capacity, Liquefaction, and Slope Stability by using Pysnanj software.
- Calculation of Pile Capacities

#### Major Projects:

Completed **more than 150** geotechnical investigation projects all over Pakistan, including field data collection, analysis for bearing capacity, pile design, and technical report writing. Moreover, completed the following geotechnical investigation projects

- 2x100 MW Wind Power Project for Aerospace New Energy (Pakistan) Co. (Pvt.) Limited
- Construction of 50 MW Grid Station at Zephyr Wind Power Project, Gharo, Sindh
- Geotechnical investigation for different structures at PAF Airbase, Bholari, Sindh
- More than 30 residential plots at Bahria Town Karachi
- Several bridges across Sindh.
- More than 10 high-rise buildings all over Pakistan.
- Multiple Projects for Petrol Pumps all over Pakistan
- Jamshoro, Pakistan 2x660 MW coal-fired power plant project.
- Remolding and Expansion of Expo Centre, Karachi
- Setting up the Bahria Foundation LNG Terminal at Charna Island.
- Settlement analysis of Shikarpur and Mehmoodkot terminal station WOTS-III by using Plaxis 3D.

## TEACHING EXPERIENCE

### 1. NED University of Engineering and Technology

**Position:** Lecturer      **(Duration:** Jan 2026 to Present)

**Position:** Visiting Faculty      **(Duration:** Mar 2023 to Dec 2025)

#### Subjects Taught :

- Surveying I & II
- Transportation Engineering I
- Geoinformatics
- Traffic Impact Studies

➤ Reinforced Concrete Design-II (RCD-II)

**2. Indus University** (Duration: Mar 2022 to Feb 2025)

**Position:** Lecturer

**Subjects Taught:**

- Civil Engineering Drawing
- Materials and Methods of Construction
- Soil Mechanics
- Structural Principles

**3. Sir Syed University of Engineering and Technology (SSUET)** (Duration: Mar 2022 to Jun 2022)

**Position:** Visiting Faculty

Worked as a visiting faculty and Taught Civil Engineering Drawing – II

**4. Aligarh Institute of Technology (AIT)** (Duration: Nov 2020 to Nov 2022)

**Position:** Instructor

**Subjects Taught:**

- Soil Mechanics
- Basic Civil Engineering Drawing
- Civil Drafting and AutoCAD

## **RESEARCH EXPERIENCE**

**1. Research Assistant** (Duration: Jan 2023 – Present)

**Research Title:** Efficient Decision Support System for Tsunami Emergency Evacuation Planning and Management

**Supervisor:** Prof. Dr. Muhammad Masood Rafi

Earthquake Engineering Department, NED University of Engineering and Technology

**2. Research Student** (Duration: Jan 2019 – Jan 2020)

**Research Title:** “Effect of Temperature on Dynamic Properties of Reinforced Bricks”

**Supervisor:** Prof. Dr. Amanullah Marri

Civil Engineering Department, NED University of Engineering and Technology

## **INTERNSHIPS**

- 40 days of Internship at Soil Testing Services.  
**Work:** Geotechnical investigation report writing and data analysis.
- 20 days of Internship at EA Consulting Pvt. Ltd
- Quantity take-off for 600 sq. yds Residential Building (company: Costveyors)

## **TECHNICAL REPORTS**

**M.S. Thesis:** “Effect of Temperature on Dynamic Properties of Reinforced Bricks”

- Made the cylindrical brick sample by reinforcing it with different percentages of geosynthetic fibre (GF), i.e. 0%, 2%, 4%, 6%, and 8%.
- The samples were baked in an oven at 50°C, 100°C, and, 200°C.
- The samples were tested under cyclic loading by using a Cyclic Triaxial Testing Machine.
- The shear modulus of the samples reinforced with 8% GF, baked at 100 °C, has been improved as compared to the standard samples

### **B.E. Thesis: “Cost and Strength Comparison of Traditional and Lightweight Building Structure”**

- Made the lightweight Blocks (named EPS blocks) by using polystyrene beads with some percentage replacement of coarse aggregate.
- These blocks are lighter than the standard blocks that are available in the market.
- Analyse the 28-story hypothetical building for its weight and cost by replacing the standard blocks with EPS blocks
- The weight of a building with EPS blocks is 15% lighter compared to a building with standard blocks.
- The cost of a building is reduced by 10%.

### **SOFTWARE SKILLS**

- AutoCAD (Certified)
- ArcGIS, QGIS
- Plaxis 3D (Geotechnical Modelling Software)
- SPSS
- SUMO (Transportation Modelling Software)
- NetLogo
- MS Office (Word, Excel, PowerPoint)

### **PROFESSIONAL DEVELOPMENT SEMINARS AND WORKSHOPS**

- Be Your Own Boss by Amazon and Entrepreneurship - Engine that runs the Economy
- How to start and grow a business: An Introduction to PNIP Investment Readiness Program
- 5G Networks Architecture and Features High-Level Perspective
- Leadership and Engineering: A Dichotomy or Misunderstanding

### **EXTRACURRICULAR ACTIVITIES AND ACHIEVEMENTS**

- Participated in departmental football and cricket tournaments organised by NED University.
- Secured **first position** in a school-level quiz competition.
- Book Reading and Gardening.