

Ameer Hamza

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PERSONAL PROFILE STATEMENT

Detail-oriented, highly self-motivated, focused, and innovative Civil Engineer having keen interest in learning and developing existing and new technical skills. Also, I enjoy problem solving using established analytical methods and engineering principles. I am very committed to develop sustainable and economical solutions for engineering structures to make engineering structures safer and reliable.

EDUCATION

Bachelor of Engineering in Civil Engineering | NUST, H-12 Islamabad | NICE *2019-2023*

- Graduated with CGPA: 3.73

A level | Lahore Learning Campus (LLC), Lahore Sher pao bridge *2016-2018*

- Graduated with A grade.

O level | Lahore Learning Campus (LLC), Lahore Sher pao bridge *2014-2017*

- Graduated with A grade.

RESEARCH

Research interest:

Linear design of structures

Performance Based Design

Life cycle cost analysis (LCCA)

Application of passive damping systems for resilient buildings

Application of strut modeling for infilled frame structures

Development and production of artificial light weight aggregates

Development and production of lightweight concrete

Energy performance of structures

Application of soil structure interaction (SSI) for performance assessment

Research work and publications:

1. Machine Learning-Based Predictive Modeling of Sustainable Lightweight Aggregate Concrete published in [sustainability](#)
2. Study of physical and mechanical properties of artificial expanded clay aggregate made of Pakistani clay published in [Construction and Building Materials](#)
3. Development and design of Novel ECC-filled steel tube dampers [ready to submit](#).
4. Performance assessment and optimum design and optimum location study of ECC-filled steel tube dampers in high-rise buildings [article in progress](#)
5. Evaluating the Role of Finite Element (FE) Soil-Structure Interaction in Optimum Fluid Viscous Damper Design for Tall Buildings: A Comparative Analysis [ready to submit](#)

SKILLS

Software:

ETABs
SAP 2000
SAFE
CSI DETAIL
Abaqus
REVIT (structural)
Deep soil
Perform 3D
Microsoft Office.
AutoCAD
STAAD PRO
Tekla Structures
Python (for structural engineering)

Technical Skills:

Linear design, irregularity checks and design optimization of building structures
Performance Based Seismic Design
Finite Element Analysis
Efficient Analytical problem solving

Soft Skills:

Research Writing
Leadership skills
Administration and management.
Communication and interpersonal

HONORS AND AWARDS

Rector GOLD medalist

Final year project Awarded with rector GOLD medal and stood 3rd in Industrial Awards

Dean's List (2nd, 4th and 6th semester-2021)

After every semester, the Dean of the department nominated top 3 students from each section of the batch, based on GPA and are awarded with NUST merit-based scholarship.

Best final year design projects (FYDP by PEC)

Undergraduate final year project (FYP) selected in top 10 final year design projects (FYDP) and successfully secure funding for future research.

Selected in TOP hundred projects of Pakistan, design EXPO, SEE, by superior university of Pakistan.

Selected in top 100 projects of Pakistan in a design EXPO, SEE, maneuvered by superior university of Pakistan in August 2022

PROFESSIONAL TRAINING

Workshop

Capital University of Sciences and Technology (CUST), Islamabad.
Description: Analysis and Design of elevated water tanks

Workshop

The institute of engineers, Pakistan, continuing professional development program
Description: Material testing procedures

Workshop

The institute of engineers, Pakistan, continuing professional development program
Description: site inspection procedures

ELECTIVES

Engineering Project Management RICE University, Houston Texas, USA	<i>2020-2021</i>
<ul style="list-style-type: none">• Completed	
AutoCAD Virtual University of Pakistan	<i>2020-2021</i>
<ul style="list-style-type: none">• Completed	
Introduction to programming with MATLAB Vanderbilt university	<i>2020-2021</i>
<ul style="list-style-type: none">• Completed	
Mechanics of material I Georgia institute of technology	<i>2020-2021</i>
<ul style="list-style-type: none">• Completed	
Construction project management Columbia university	<i>2021</i>
<ul style="list-style-type: none">• Completed	
Mechanics of material II, III,IV Georgia institute of technology	<i>2021</i>
<ul style="list-style-type: none">• Completed	
Structural design of RCC building manual and Excel UDEMY (Online coaching site)	<i>2022</i>
<ul style="list-style-type: none">• Completed	
Master CSI perform 3D for nonlinear structural analysis UDEMY (Online coaching site)	<i>2022</i>
<ul style="list-style-type: none">• Completed	

PROFESSIONAL AFFILIATION

1. Structural engineer at BENDCRETE Engineering Services

My major duties are:

1. As a Structural engineer, I Prepare reports, designs and working drawings of various projects.
2. Coordinates and integrates with Architects perspective into unified design for client review and approval.

2. Freelancer at fiverr and GURU.com

Professional projects

- **Composite large span aircraft hangar design: Utilizing steel and reinforced concrete for a lightweight, weather-resistant hangar with a large clear span to accommodate multiple aircraft.**
- **Structural design of a 4-story RCC school with varying foundation levels: Incorporating seismic-resistant features for classrooms, laboratories, and common areas with different foundation levels to address soil variations.**
- **Seismic design of an elevated mushroom-shaped water tank: Ensuring stability during earthquakes through seismic analysis and innovative design of the unique mushroom-shaped tank.**
- **Steel transmission tower design and detailing: Precision calculations for material selection, member sizing, and connections to optimize the tower's integrity for power transmission lines.**
- **Structural design and detailing of an aluminum manufacturing plant made of steel: Efficiently designing a steel structure to accommodate aluminum manufacturing processes, ensuring safety and flexibility for future expansions.**
- **Precast 4-story RCC building design and detailing: Detailed planning for rapid assembly of a precast RCC building, reducing construction time and costs while maintaining structural integrity.**
- **Structural design and detailing of a 4-story RCC modular structure: Utilizing modular construction principles for efficient load distribution and rapid assembly of the RCC building.**
- **High-rise RCC structure design optimization using performance-based seismic design: Enhancing seismic resilience through performance-based design, ensuring occupant safety and minimizing earthquake damage in the high-rise RCC building.**

SOCIAL ACTIVITIES

- Marketing Executive at American Society of civil Engineers at NUST
From Jan -2021 to Jan-2023
- Student Associate Member at Pakistan society of civil engineers (PSCE)
From 15-Jan -2021 till present
- Admin Events Executive at TABA youth force at NUST
From Jan -2021 to Jan-2023
- Admin Events Executive at NUST skills development club (NSDC) at NUST
From Jan -2021 to Jan-2023
- Security executive at NICE student council (NSC)
From Jan -2021 to Jan-2023

CO-CURRICULAR AND COMMUNITY SERVICE

- FEHM E DEEN course from Sirat e Mustaqeem
- Gold Medalist in single snooker championship at 'NGS sports fest 15'
- Winner of MADS '14 (Maths and divulging science 2014)
- Runner up in cricket championship at 'NGS sports fest 15'
- Founding member of Bandagan e Razzaq
- Associate member of Alif foundation, chapter by UET Lahore
- Associate member of ALLAH KAY BANDAY FOUNDATION (A.K.B)
- Runner up in cricket championship at 'LLC sports fest 17'

INTERNSHIPS

- Internship at SMEC Lahore (AUGUST-2021)
- Internship at IEP Lahore (JUNE 2022 TO AUGUST 2022)

LANGUAGES

PUNJABI: Mother Tongue

URDU: Native language

English: Professional Level

REFERENCES

- 1) **Dr. Rao Arsalan Khushnood**, [HOD research]
Structural Engineering, NICE
National University of Sciences and Technology
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- 2) **Dr. Fawad Ahmed Najam**, [Assistant Professor]
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