

HAFIZ ULLAH | GEOHAZARDS ENGINEER

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Objectives

A dedicated research scholar specializing in the application of artificial intelligence to landslide susceptibility mapping and geospatial data analysis. Experienced in employing advanced AI techniques to assess and mitigate geo-hazard risks. Committed to contributing innovative research that enhances hazard prediction accuracy and supports sustainable land use planning, as well as disaster risk reduction.



Research Interest

- Geo-hazards
- Simulation
- Geospatial Analysis
- Geo-AI



Academic Profile

- **Current- July 2029 | Shanghai Jiao Tong University, China**
(PhD Degree | Civil Engineering)
- **Sep 2022- July 2025 | China University of Geosciences (CUG), Wuhan, China**
(Master's Degree | Environmental Science and Engineering | CGPA: 4.07/4.5)
Relevant Areas:
 - Geo-hazards Risk Assessment
 - Landslide Susceptibility Mapping
 - Ground Deformation via SAR imagery
 - GIS & Remote Sensing
 - Environmental Impact Assessment
- **Aug 2015- Nov 2019 | University of Engineering and Technology (UET), Lahore, Pakistan**
(Bachelor's Degree | Geological Engineering | CGPA: 3.267/4.00)
Relevant Areas:
 - Slope Stability Analysis
 - Geotechnical Engineering and Rock Mechanics
 - Geophysical Exploration Techniques
 - Surveying and Geological Mapping



Research Projects

- **Bachelor's Thesis Title:** Evaluation of Slope Instability and Rockfall Hazard along M2 Motorway in the Salt Range Area, Pakistan.
- **Master's Thesis Title:** Machine Learning and Deep Learning for Enhanced Landslide Susceptibility and Propagation Dynamics with Cross-validation through PS-InSAR in Northwestern, Pakistan.



Research Articles

- [Machine Learning and Deep Learning for Enhanced Landslide Susceptibility and Propagation Dynamics in Northwestern Pakistan], currently under review as first author (**Bulletin of Engineering Geology and the Environment**).
- [Landslide susceptibility mapping using hybrid machine learning classifiers: a case study of Neelum Valley, Pakistan], as a co-author (**Bulletin of Engineering Geology and the Environment**).
- [Development of an Automatic Approach for Rock Mass Structure Interpretation, Highlighting Trace Discontinuities from Colored 3D Point Clouds], currently under review as a co-author (**Rock Mechanics and Rock Engineering**).
- [Spatial Analysis of Flood Susceptibility in the Coastal Area of Pakistan Using Machine Learning Models and SAR Imagery], as a co-author (**Environmental Earth Sciences**).

- [The Role of Multi-Resolution DEM and Uncertainty of Sampling Strategies in Boosting the Accuracy of Deep Learning-Based Debris Flow Susceptibility Mapping], currently under review as co-author (**Acta Geotechnica**).
- [An Insight into Integrated Farming System Impacts on Soil Physiography and Weed Control in South Waziristan], Published as a Co-Author (**Pak-Euro Journal of Medical and Life Sciences**).



Professional Profile

- **2019 | Site Engineer | Govt. Contractor**
- **2020 | Assistant Manager | Sharjah, United Arab Emirates (UAE)**
Worked in a Minimart for six months as an assistant manager
- **2021 | Costumer Support Team | Mindbridge, Lahore, Pakistan**



Skills

- **Technical skills:** Proficient in reading geological maps, engineering drawings, and well logs, as well as interpreting contracts.
- **Interpersonal Skills:** Effective communicator
 - English – **IELTS Academic (Test Date: 05 Jan 2025), Overall Band Score: 7.0** (Speaking: 6.5 | Listening: 7.5 | Reading: 7.5 | Writing: 6.0).
 - Chinese – Basic proficiency (Completed Chinese Language Course, UET Lahore).
 - Pashto – Native language.
 - **Urdu** – Fluent (National language).
- **Software Skills:**
 - GIS packages (ArcGIS, QGIS, ArcGIS Pro),
 - Remote sensing-related software (Envi, Pix4D), DIPS,
 - CorelDRAW, Origin, and Visio,
 - Python language, Google Earth Engine (GEE),
- **Field-related skills:**
 - Conducted fieldwork in stratigraphy, geological mapping, and assessing hydropower infrastructure across various dams, including the Terbel and Ghazi-Barota dams, as well as the Salt Range.
 - A comprehensive field survey of geohazards in the northern mountainous region of Pakistan.
 - Participated in Fieldwork on slope stability and ecological restoration in Shaanxi Province, China.



Achievements

- Recipient of the Chinese Scholarship Council (CSC) Scholarship from 2022 to 2025.
- Recipient of the HEC Scholarship Award | Awarded the Wana Welfare Association scholarship for the academic years 2015-2019.
- Awarded the Wana Welfare Association scholarship for Intermediate and graduation.
- Awarded the Fata Secretariat scholarship for engineering and medical students.



Extracurricular activities

- **International Ambassador** for China University of Geosciences, Wuhan
- **Director**, Pashtun Student Society Book Club; **Lead**, Debating Team.
- **Executive Member**, UET Literary Society, Society of Geoscientists and Engineers, and Society of Mining Engineering
- **Active Member**, Doag Student Society – supported fundraising initiatives for children's education
- Passionate player of cricket and volleyball; avid hiker and trail explorer
- Enthusiastic non-fiction reader with a keen interest in knowledge-based literature



Certificates

- **Developing Sustainable Earth Science Applications** (NASA ARSET, 2025), **Remote Sensing Training (ARSET) Program** (NASA).
- **Cartography** (Esri MOOC, 2024), **GIS for Climate Action** (Esri MOOC, 2024), **Spatial Data Science: The New Frontier in Analytics** (Esri MOOC, 2024).
- **Fundamentals of GIS from University of California** (Coursera, 2023), **Introduction to GIS from University of Toronto** (Coursera,

2023), etc.

- **Chinese Bridge Delegation Programme** (Wuhan University of Science and Technology).
- **5th Badong International Geohazards Symposium (BIGS2025)**



References

- Dr. Xing Aiguo (PhD: Southwest Jiaotong University) xingaiguo@sjtu.edu.cn
- Dr. Wei Wang (PhD: Kyushu University) wangw@cug.edu.cn
- Dr. Muhammad Farooq Ahmed (PhD: Missouri University of Science and Technology, Rolla, Missouri, USA) mfageo@uet.edu.pk
- Dr. Deng Yamin (PhD: China University of Geosciences, Wuhan, China) yamin.deng@cug.edu.cn