Masood Sultan

Geoscientist & AI Engineer

Berlin, Germany masood.geo@yahoo.com masoodsultan.com github.com/masood1996-geo

SUMMARY

Computational geoscientist specializing in agentic AI systems, autonomous data platforms, and climate adaptation research. Transitioned from subsurface geology and 3D seismic interpretation to atmospheric modeling and environmental AI engineering. Proven track record of developing universal LLM-powered crawlers and real-time geospatial intelligence pipelines. Actively seeking PhD and research positions at the intersection of climate AI and computational geoscience.

EDUCATION

MSc Global Change Geography
2019 – 2026

Humboldt University of Berlin

- Developed the **Conditional Enabling Framework (KIEA)** to diagnose participatory water governance under severe climate stress.
- Thesis focused on data availability, institutional performance, equity, and iterative learning under hydrological non-stationarity.

BSc Geophysics
2014 – 2018

Bahria University

- Graduated with Honors: 3.55/4.00 CGPA.
- **3rd Place, Imperial Barrel Awards (Asia Pacific):** Highly competitive AAPG geoscience competition focusing on subsurface architecture and basin modeling.

SELECTED PUBLICATIONS & RESEARCH

A case study of 3D geomodelling of Frontier Formation Second Wall Creek Sand, Teapot Dome, Wyoming, USA
2020

Co-author | Journal of Applied Geophysics (Vol. 179, 104114)

Presented an advanced 3D geomodelling workflow applied to the Teapot Dome anticline. Integrated well log correlation, seismic interpretation, and stochastic property modelling in Schlumberger Petrel to demonstrate best practices in reservoir characterization.

DOI: 10.1016/j.jappgeo.2020.104114

ENGINEERING & COMPUTATIONAL PROJECTS

TerraMind Core
2026

Real-time Global Disaster Intelligence Platform

- Architected a robust Node.js backend seamlessly aggregating and normalizing data from USGS Earthquakes, NASA EONET Wildfires, and NASA FIRMS Server.

- Implemented Server-Sent Events (SSE) for zero-latency push to connected analytical clients without polling.

Autonomous AI Crawler (OpenHouse-Bot Architecture) 2025

LLM-Powered Universal Data Extractor

- Built an adaptive crawling architecture capable of autonomously learning a website's DOM structure entirely using Large Language Models.
- Successfully deployed on HuggingFace for scraping large-scale, unstructured real estate data across 50+ global portals. Architecture directly transferable to aggregating legacy climate models and fragmented hydrological databases.

TECHNICAL & SCIENTIFIC SKILLS

Geoscience:	3D Geomodelling, Seismic Interpretation, Subsurface & Basin Modeling, Climate Risk Analysis, Water Governance
Programming:	Python, R, Node.js, TypeScript, PowerShell Scripting, Bash
AI/Data Eng:	Agentic Systems Architecture, LLM Integrations, Open WebUI, Automated Web Scraping, Data Normalization
Tools/Soft:	Schlumberger Petrel, RStudio, Git, Appwrite, Docker

LANGUAGES

Proficiency:	**English** (C1/Professional), **Urdu** (C1/Native), **Hindi** (B1/Conversational), **German** (A2/Elementary)