SHARJEEL RASIB

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Geoinformatics Engineer with experience in Full-Stack WebGIS, Remote Sensing, and AI-Driven Spatial Analysis

Driving sustainable solutions by converting raw spatial data into decision-ready insights using Machine Learning and GIS techniques

Geospatial developer experienced in using open-source and full-stack tools to solve challenges in disaster management, real estate, and urban planning. Skilled in applied research, specifically using Machine Learning to predict hazards and UAV technology for mapping. I have a strong ability to organize and explain complex findings effectively. Expert in combining different data sources, building interactive web maps, and handling real-time data to help users make better decisions. Dedicated to building practical, data-driven solutions for sustainability and climate action.

- Awarded **2nd Industrial Prize** for the Landslide Susceptibility Analysis project, proposing strategies to mitigate disaster risks and enhance early warning systems using Machine Learning and GIS techniques.
- Developed a high-performance interactive mapping interface using Mapbox GL JS, implementing the Google Maps Geocoding API for precise address resolution and optimizing vector tile rendering for fluid user exploration.

CORE COMPETENCIES

Spatial Data Analyses | Machine Learning | GIS Development | Spatial Database Management | Remote Sensing
API & Web Development | IoT Programming | Report Writing | Multispectral Image Processing
ArcGIS | QGIS | ArcMap | AutoCAD | ERDAS Imagine | Grass GIS | Google Earth Engine | Pix4D | Weka
Python | GDAL | Scikit-learn | C++ | Django | Flask | SQL | PostGIS | MongoDB | GeoServer | R Language

PROFESSIONAL EXPERIENCE AND ACHIEVEMENTS

JUGRAFIYAA, Islamabad (Pakistan)

GIS WebDeveloper **06.2024 – 10.2024**

Developed a modular, high-performance geospatial interface utilizing React and Tailwind CSS, integrating RESTful APIs to visualize real-time backend datasets and streamline spatial analysis workflows.

Key Achievements:

- **Built a responsive web map** interface using React, TypeScript, and Tailwind CSS, integrating Mapbox GL JS to create interactive maps that allow for smooth user exploration.
- **Developed dynamic features** by connecting backend APIs to the React frontend, allowing real-time spatial data to be displayed directly on **Mapbox** layers to provide clear and useful insights.

Landslide Prediction, Final Year Design Project – Bachelor's Thesis

Team Lead **09.2023 – 05.2024**

Led a geospatial research project addressing landslide susceptibility through GIS, Machine Learning, and real-time weather data, resulting in an automated early warning system for disaster risk reduction. Analyzed the impact of environmental and terrain factors on landslide risks to support proactive community safety and infrastructure planning.

Key Achievements:

- Built a multi-source spatial data pipeline by integrating satellite imagery (Landsat 8, Sentinel-2), SRTM DEM, and geological datasets to derive critical factors like slope and NDVI.
- Applied a Random Forest algorithm to predict landslide susceptibility maps (LSM), optimizing the model using Principal Component Analysis (PCA) to remove correlated variables and improve efficiency.
- Built an automated React-based web portal for real-time risk monitoring, integrating the OpenWeather API to forecast dynamic rainfall triggers and delivering 3D visualizations for actionable alerts.

JUGRAFIYAA, Islamabad (Pakistan)

Web Dev Intern **08.2023 – 10.2023**

Applied open-source web development concepts to build geospatial applications, developing practical proficiency in full-stack workflows and interactive map visualization.

Key Achievements:

- **Developed a full-stack interactive** tourist map of Berlin using Mapbox GL JS, implementing the Google Maps Geocoding API to enable precise address search and seamless urban exploration.
- Built a dynamic time-series data visualization tool using **React** and **Plotly.js**, enabling the efficient analysis of temporal trends through responsive and interactive charts.

National Disaster management Authority, Islamabad (Pakistan)

GIS Analyst – Intern **06.2022 – 06.2023**

Conducted geospatial analysis for disaster risk assessment and environmental monitoring, using GIS software and automated scripts to process satellite data and support decision-making.

Key Achievements:

- Conducted a Multi-Hazard Vulnerability Risk Assessment **(MHVRA)** for Muzaffarabad and performed **Site Suitability Analysis** for Astore to identify safe and optimal zones for development.
- **Streamlined the digitization process** by integrating **Python** automation to capture live server responses directly into a PostgreSQL database.
- **Automated** the land classification process by building a Google Earth Engine workflow that extracts areas of interest, classifies Land Use Land Cover (LULC), and saves the output directly to the drive.
- Integrated **Python** scripts to calculate vegetation indices (NDVI & SAVI), significantly reducing manual processing time for environmental health monitoring.

EXTRACURRICULARS

- Awarded a performance certificate for exemplary contribution in completing 30 hours of community service at NUST-Islamabad **2024**
- Achieved athletic distinction by winning **three Inter-NUST Badminton Tournaments** and the **District Championship**, while securing a runner-up position in one event and representing the region at the **Provincial level**. **10.2020 – 04.2024**
- Demonstrated teamwork and strategic leadership by winning the Inter-NUST Cricket Tournament and securing 1st prize in the District Speech Competition, showcasing strong communication skills. **10.2020 – 04.2024**
- Actively participated in two **NUST AI Coding Competitions**, applying technical problem-solving and algorithmic logic in a competitive environment. **2024**

Interests: Table Tennis, travelling (Lived in over 5 Cities), Art, Food,Badminton,Cricket,Chess

EDUCATION AND QUALIFICATION

Technische Universität Berlin - Germany

Master of Science - Geodesy and Geoinformation Science **10.2024 – 06.2026**

Relevant Courses – Geodatabases, Photogrammetric Computer Vision, Geoinformation

National University of Sciences and Technology - Islamabad (Pakistan)

Bachelor of Geoinformatics Engineering: CGPA 3.73 / 4 **09.2020 – 06.2024**

Relevant Courses - Web GIS, Machine Learning, Data Warehouse & Data Mining, Spatial Data Analysis, Photogrammetry,Digital Mapping and image processing

English – C1 (Advanced) | German – A2 (Basic proficiency, actively improving)