



Somia Asim

GIS/RS Analyst

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📅 January 1st, 2000
♀ Female
🇵🇰 Pakistani

SUMMARY

Skilled GIS professional adept at turning ideas into spatial solutions. With expertise in GIS, remote sensing, environmental studies, and geography, I tackle complex challenges using advanced technologies. Committed to excellence and innovation, I'm ready to contribute effectively to any team.

EXPERIENCE

Research Associate

📅 12/2024 – Present
📍 Mahbub ul Haq Research Centre (MHRC) | Lahore University of Management Sciences (LUMS) – Pakistan

Project: Organizational Effectiveness and Tax Compliance in Punjab, Pakistan

- Working closely with government bodies and datasets, provided big data analysis, GIS, and machine learning support to strengthen organizational effectiveness and tax compliance in Punjab.
- For almost 15k restaurants identified in Lahore, Pakistan, developed GIS-based maps and performed geospatial and statistical modeling like advanced clustering (HDBSCAN, OPTICS, Random Forest, and density-based methods) to classify competing market clusters for targeted enforcement policies.
- Cleaned and organized large datasets of 15k+ records on restaurants, their registration status, addresses, lat/long, and tax compliance using Python (pandas, geopandas) and created a big dictionary using PostgreSQL.
- Developed and designed an interactive dashboard for the project using Python - Streamlit that is connected to PostgreSQL databases to support real-time compliance monitoring, tracking of enforcement efforts, visualization of big dictionary data, and visual analytics.
- Developed different types of survey forms and automated them to integrate into the dashboard, guaranteeing high-quality, and reproducible research outputs.
- Provided support in the development of presentations through maps, infographics, and dashboards presented to government officials and donor organizations.

Research Assistant

📅 04/2024 – Present
📍 Mahbub ul Haq Research Centre (MHRC) | Lahore University of Management Sciences (LUMS) – Pakistan

- Engaged in projects utilizing spatial analysis and geospatial tools like **ESRI Package**, **Google Earth Engine JavaScript API**, **Map Box OSM APIs**, and **Flood Models** to address complex research questions and generate insights and support evidence-based decision-making.

GIS Officer

📅 07/2023 – 03/2024
📍 Richard Garstang Conservation GIS Lab | WWF – Pakistan

- Conducted **Land Use Land Cover Classification of Lahore District from 1990 to 2020** using the Google Earth Engine JavaScript API and ArcGIS.
- Developed compelling animations illustrating the urban growth of Lahore from 1990 to 2020. The animations garnered significant attention and were shared on [Twitter](#), [DAWN](#), and [SAMAA News](#).
- Assisted in writing a blog titled "[From Farms to Buildings: Three Decades of Lahore's Urbanization](#)", published on the [WWF-Pakistan website](#).
- Developed an **Interactive Web Map** utilizing ArcGIS online Platform to show the number of Acacia and Fruit Plants Planted over Bahawalpur, Multan, Lohdran, Sukkur and Khanewal Districts under the Plantation Drive initiated by WWF- Pakistan.
- Developed a Story Map named "[Reviving the Indus Bhulan](#)", showcasing the efforts of WWF-Pakistan in conservation of Indus River Dolphin, and submitted the map in **ESRI's Story Map Competition 2023**.

GIS Associate

02/2023 – 06/2023
Richard Garstang Conservation GIS Lab | WWF – Pakistan

- Developed a temporal change map illustrating the "Pre and post-flood conditions in Manchar and Hammal Lake regions". Utilized the Google Earth Engine JavaScript API and Landsat Satellite Series to identify and mark flood-inundated locations.
- Designed a GIS-based poster titled "Indus River Dolphin - A GIS Perspective", highlighting the support and contributions of RGCGL-WWF Pakistan to the conservation efforts of the Indus River Dolphin.
- Developed a comprehensive Google Earth Engine and MaxEnt Manual for dissemination among various departments and students. The manual covers fundamental concepts of both platforms, along with hands-on exercises to support thesis work and practical application.

GIS Intern

09/2022 – 01/2023
Richard Garstang Conservation GIS Lab | WWF – Pakistan

- Developed spatial data on Goggle Earth Pro and crafted over 1000 maps using ArcMap to illustrate farmer-level data across Baluchistan as part of the "Organic Cotton Project", a collaborative effort between WWF Pakistan and various stakeholders.
- Created a GIS-based poster highlighting the results and statistical insights derived from the "Forest Cover Change Assessment of Pakistan 2016 & 2020" under Reducing Emissions from Deforestation and Forest Degradation (REDD+) Project.
- Conducted Hydrological Analysis and delineated canals, using different GIS Models to identify interventions pertinent to ongoing projects.

EDUCATION

BS in Geography

2018 – 2022
Institute of Geography | University of the Punjab, Lahore, Pakistan

CGPA
3.73 / 4.0

- Acquired foundational knowledge of ArcGIS and R Language.
- Conducted basic analyses, including "Hydrological Modeling and Watershed Delineation" over Panjgur District, utilizing Data-Driven Pages.
- Developed an animated chart illustrating Chromite Production in Pakistan from 2006 to 2014, employing R Language.
- Researched and developed a handmade map illustrating the "Mercantile Trade Routes of the Colonial and Modern Eras".
- Analyzed and Mapped "salinity zones and wildlife distribution in the Bangladesh Sundarbans".
- Developed a Map showcasing "Mouse Lemurs species distribution in eco-regions of Madagascar".
- Mapped the "Distribution of basketball courts in major districts of Hong Kong".
- Executed a Demographic Field Survey in Saidpur and Shahdara Villages, Islamabad, encompassing 20 households per village. Assisted in report writing for the conducted survey.

Intermediate in Computer Science

2016 – 2018
Aspire Group of Colleges | BISE Lahore

Marks
795 / 1100

Matriculation in Science

2014 – 2016
Navid Foundation High School | BISE Lahore

Marks
730 / 1100

ADDITIONAL EXPERIENCE

Freelance Course Developer

Contributed to the development of course content for United Nations University Institute for Water, Environment and Health. By writing Google Earth Engine JavaScript API-based code and producing instructional videos using Adobe Premiere Pro. Developed Courses and links are given below:

- Introduction to Geospatial Data Analysis with ChatGPT and Google Earth Engine
- Active and Passive Satellite Data Analysis Using Cloud Computing for Surface Water/Flood Mapping.
- Spatiotemporal Drought Assessment by Leveraging Google Earth Engine Platform.

VOLUNTEER EXPERIENCE

Alkhidmat Foundation Pakistan

June 2024 – Present

Participating in disaster relief and humanitarian aid initiatives to support affected communities in Lahore District, Pakistan.

Citizens' Climate Lobby

June 2024 – Present

Advocating for effective climate policies and raise awareness about climate change through collaboration and dialogue.

Acquaint Global

June 2024 – Present

Participating in online mentoring sessions to explore diverse cultures and ways of life, enhancing cross-cultural communication skills.

CERTIFICATION

GIS Data Analytics and its Applications 1 Day Workshop Urban Unit, Lahore	Land Resource Assessment Using Remote Sensing Webinar University of the Punjab	The Drone GIS: A New Dimension in Geographical Research Webinar University of the Punjab
Differential Global Positioning System (DGPS) 2 Days Training Workshop University of the Punjab	Socio-environmental Engagement: A GIS Perspective Webinar University of the Punjab	Wetlands and Human Wellbeing: Perspectives from Asia and Africa Webinar IMWI, NEXUS GAINS

TECHNICAL SKILLS

ESRI Products	Google Earth Engine	QGIS
Python Script	JavaScript API	Adobe Package
Google Earth Studio	3D Animation	R Language
Database Management	Microsoft Office	
Communication Expertise		

INDUSTRY EXPERTISE

Geographic Information Systems (GIS)	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Remote Sensing	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Environmental Conservation and Management	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Geospatial Data Analysis	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Research and Publication	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Urban and Regional Planning	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

CO – CURRICULAR ACTIVITIES

Organizer

Webinar and Sports Gala Events |
Institute of Geography, University of the Punjab, Lahore.

Organizer and Coordinator

16th All Pakistan Geographical Conference with Theme Globalization, Environmental Challenges and Changing Paradigms of Geography in Pakistan | University of the Punjab and Lahore College for Woman University, Lahore.

LANGUAGES

Urdu (Native)	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
English (Speaking, Reading, Writing)	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

TALENT & QUALITIES

Organized	Quick Learner
Good Listener	Cooperative
Proactive Approach	Leader and Visionary
Problem-solving	Persistent
Hardworking	