

Muhammad Usman Bakht

Full Stack Web developer/ Geoinformatics Engineer, NUST Pakistan

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Experience

Full Stack GIS Developer – 04/07/2023 – Present, 11 Months.

Metavystic, Islamabad

- Worked on React PERN stack projects, integrated APIs for login system, middleware and Leaflet Maps.
- Wrote backend APIs endpoints in Sequelize and Node.js project, CRUD creation and unit test writing.
- Worked on backend of typescript, NEST JS and FastAPI based project, made Database tables and CRUD.

Intern – 20/06/2022 to 29/07/2022, 6 weeks

Ministry of climate change, Islamabad

- Worked on automation of LST calculation, Batch Processing of raster data on ArcMap.
- Introduction to Ten billion tree tsunami project, CBD collaborations.

Data Analyst Intern – 19/12/2021

KPMG Australia (remote)

- Completed tasks of data quality assessment, data insights and presentation.

Intern – 12/07/2021 to 27/08/2021, 8 weeks

Cavalier Group of energy and Defense system, Islamabad

- Experienced Drone Mapping. Orthorectification, Point Cloud mesh creation, and mosaic creation on pics4D and ArcGIS software. Fishnet creation to divide areas for drone swath.

Skills and Software

- Python and Javascript Web Development.
- APIs, Authentication and authorization.
- Web Maps creation
- Databases Queries and management
- Raster and vector datasets Management
- Agricultural analysis using Remote Sensing

Tech Stack

- React, NodeJs, Express, Python
- PostgreSQL, Django, Git CLI, Geoserver.
- Mapbox GL Js, Leaflet, MapLibre GL js, Sequelize, Prisma, geopandas, GDAL, Fiona, matplotlib, FastAPI
- ArcMap, QGIS, ERDAS Imagine

Publications

Assessing the Impact of Land Use/Land Cover Changes on Hydrological Components of the Jhelum River Basin Using SWAT Model.

Link to paper: https://doi.org/10.1007/978-3-031-27280-6_5

Education

Bachelors in **Geoinformatics Engineering** – 2019-2023

NUST H-12, Islamabad, Pakistan.

Projects

- FYP: Decentralized Webapp for Peer to Peer Buying and Selling of Land Using GIS and Blockchain.
- Made a webmap using Mapbox GL JS; <https://take-me-there.glitch.me>
- Making a full stack webapp using react and postgresSQL to Add, Delete, Read, Update stores on webmap.
- Created a MERN stack Application in which user can login and create their portfolio, and add projects.
- Creating a MEAN stack CRUD application from scratch, with email verification and password Match.
- Made a website with Kepler.gl and mapbox map embedded; <https://fyp-blockestate.glitch.me>
- Running SEBAL model using python on Landsat image to calculate evapotranspiration.