Contact

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(LinkedIn)

Top Skills

Flask
TiTiler
Geographic Information Science

Languages

English (Full Professional)

Certifications

Mastering React

R Programming for Data Science
Essentials

Symposium on Document Image
Analysis

Programming with JavaScript

Geospatial and Environmental
Analysis

Honors-Awards

Distinguished Service Medal

Best Performance Award

Team Performance Award

Muhammad Umair

Full Stack # | GIS & Geo-Visualization Expert | JScript| Reactjs |
Node | Express | Docker | Python | FastAPI | Geoserver | GDAL |
PostgreSQL + PostGIS | MySQL | Ubuntu | Remote Sensing | Spatial
Datasets
Newcastle Upon Tyne, England, United Kingdom

Summary

With 14 years of comprehensive experience in full-stack
development and GIS-based systems encompassing a wide range
of tech-stack tools including React, Node, Express, Python, PHP,
Django, FastAPI, MySQL, PostgreSQL + PostGIS, OpenLayers,
Leaflet, GeoServer, GDAL, QGIS, and ESRI products, among
others. My expertise not only lies in coding and system design but
also in collaborating across teams to drive projects to completion. I
am constantly exploring new technologies to stay at the forefront of
GIS and web development, aiming to contribute my deep technical
knowledge and strategic insights to a dynamic team environment.

Experience

Spatial Days Ltd
Full Stack Developer
March 2024 - Present (5 months)
Aldermaston, England, United Kingdom

Working as full-stack developer primarily with front-end role on multiple
projects:

Responsibilities include:

• Development & deployment of front-end portals using React ,Openlayers &
Redux

• Back-end API development, deployment, integration and maintenance using
Django & Docker

• Managing pipelines & various models responsible for remote sensing tech
stacks using RasterIO, Numpy & Celery

• Maintain containerised environment for generic deployment using a
combination of Docker, Kubernetees, CI/CD pipelines

• Design & develop front end using core Reactjs for accessing and evolving
back-end API calls using JavaScript, usage of MaterialUI,
Antd, Chartjs etc.

• Designing & choosing better tech stack & system architecture for a reliable service
• Managing & fixing any github issues, pull requests & deployments via git control of various repos

Ladar Ltd
Software Developer
May 2023 - November 2023 (7 months)
United Kingdom

Working as software developer on EU project "SafeNav" to design & develop back-end APIs.
Responsibilities include:
• Design, development & deployment of micro-services via Fast-API framework using Python in a docker containerized enviroment
• Authorization & template integrations for micro-services via PASETO/JWT tokens
• Managing ingestion, integration & handling of vector datasets for creation of spatial databases using PostgreSQL + PostGIS
• Achieve & maintain containerised environment for generic deployment using a combination of Docker, GitHub, CI/CD & Digital Ocean droplet
• Design & develop front Reactjs based front-end for accessing and evolving back-end API calls using JavaScript
• Assisting technical lead on progress, potential security risks & preferred system architecture for a reliable service
• R & D over best possible solutions, innovating solution-oriented initiatives, implementing and ensuring compliance with coding standards
• Member of Technical Team meetings, designing flow diagrams, & handling JIRA tickets

Pakistan Space and Upper Atmosphere Research Comission (SUPARCO)
12 years 7 months

Manager - GIS Development
May 2016 - May 2023 (7 years 1 month)
Islāmābād, Pakistan

• Lead developer for planning, developing & executing geospatial based projects from scratch till deployment using latest tech stack (Leafletjs, OpenLayers, JavaScript, Reactjs, Bootstrap, MERN Stack, Geoserver, PostGIS, Xampp)

• Developed country level GIS solution "Aks-e-Pakistan" encompassing 100+ vector datasets, petabytes of historic satellite data, temporary user mapping to incorporate & rely on SUPARCO's self-available resources and avoid enterprise dependency (Tech stack involved: PHP, JavaScript, MySQL, PostgreSQL, Geoserver, Openlayers, Mapproxy)

• Developed SUPARCO's first ever digital interface "Order Management System (OMS)" to place an order of satellite imagery for government entities (Tech stack involved: Python, Nodejs JavaScript, MySQL, PostgreSQL + Postgis , Geoserver, Openlayers, Geowebcache, WPS, turfjs etc)

• Undertook initiatives to develop & integrate on the fly web-based geoprocessing via WPS, Python APIs for end users (Python, RasterIO, Shapely, Orfeo toolbox etc.)

• Overlooking & managing a team of engineers/developers to ensure delivery, development procedures & data consistency for Geo-spatial data management, databases, and solutions.

• Build and develop tools or processes in conjunction with other teams for on-time, quality release of data products, services, and applications.

• Creating, managing, and troubleshooting services for developed products, associated datasets, services, features, and web-based processing tools.

• Assisting management with strategic planning by researching latest industry trends, marketplace solutions, and emerging technologies

• Diagnosing & troubleshooting complex system application issues, identifying, analysing, and fixing bugs to fix performance issues.

• Responsible for overlooking data centre activities, management & security for highest availability, reliability, and disaster recovery solutions. (implemented OWASP protocols for server soft hardening)

Assistant Manager - GIS Development
November 2010 - April 2016 (5 years 6 months)
Islāmābād, Pakistan

• Derived & delivered various desktop & web-based Geographic Information Systems for solutions delivery timely (Openlayers, Ol-ext, PHP, Jscript, JSP, Geoserver, Apache etc.)

• Worked on developing desktop based spatial solutions using C# Win-forms, ESRI ArcEngine & MS SQL Server handling vector datasets

• Design, development & deployment of large scale geo-spatial web applications primarily using ASP.NET, PHP, Jscript, Openlayers, Geoserver, Postgis, MapProxy, multi-satellite Remote Sensing imageries, etc.

• R & D over best open-source tools/libraries to achieve self-independent, customized & controlled solution deliveries using Git Bash, GDAL, TileCache, MapProxy & GeoWebcache
• Design & developed strategies to render hundreds of terabyte time-series RS data from multiple satellites effectively and efficiently for faster processing through GDAL pyramids, Inner tiling, offline tiling
• Redesigned deployed ERDAS Apollo, designed & developed SUPARCO's first customized Satellite Imagery Catalog using GeoNetwork to replace ERDAS Apollo
• Development, maintenance & integration of demographic data sets into spatial solutions
• Writing up codes & scripts to automate processes & replace manual efforts (bash, python, windows

Tradepoint 360, Inc.
Junior Software Engineer
August 2009 - October 2010 (1 year 3 months)
Lahore, Punjab, Pakistan

Worked on the following products:

• Retail application.
• Kiosk application.
• Reporting Engine/Tool.

Responsible for:

• Development of the macros based on VB.NET & C# by using a code engine, to use it with retail/kiosk application.
• Writing of SQL queries by using the reporting tool for retail application.
• Contribution into the release of the Service Pack 1 of the retail product.
• Participation in QA (Quality Assurance) activities.
• Client After sale support & Technical Services
• Writing up Knowledge based Articles

Education

Institute of Space Technology (IST)
Master of Science - MS, Remote Sensing & Geo-Information
Sciences · (September 2020 - April 2023)

University of Engineering and Technology, Taxila

Bachelor of Science - BS, Software Engineering · (October 2005 - August 2009)