Muhammad Umair

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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

Software Developer

Ladar Ltd

May 2023 - Present (10 months)

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 Python framework
• 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
• 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

Manager - GIS Development

Pakistan Space and Upper Atmosphere Research Comission (SUPARCO)

May 2016 - May 2023 (7 years 1 month)

• Lead developer for planning, developing & executing geospatial based projects from scratch till deployment using latest tech stack (Leafletjs, OpenLayers, Jscript, Reactjs, Bootstrap, MERN Stack, Geoserver, PostGIS)
• 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
• Developed SUPARCO's first ever digital interface "Order Management System (OMS)" to place an order of satellite imagery for government entities
• Undertook initiatives to develop & integrate on the fly web-based geoprocessing via WPS, Python APIs for end users

• 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.

Assistant Manager - GIS Development

Pakistan Space and Upper Atmosphere Research Comission (SUPARCO)
Nov 2010 - Apr 2016 (5 years 6 months)
• Derived & delivered various desktop & web-based Geographic Information Systems for solutions delivery timely
• 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

Junior Software Engineer

Tradepoint 360, Inc.
Aug 2009 - Oct 2010 (1 year 3 months)
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
Sep 2020 - Apr 2023
Thesis title : Multi-Satellites Imagery Catalouge (MSIC)

University of Engineering and Technology, Taxila
Bachelor of Science - BS, Software Engineering
Oct 2005 - Aug 2009
Final Year Project Title: Emergency Response System using WiMax network

Licenses & Certifications

Front-End Web Development with React - Coursera
SBDD5AUDVEAE

Mastering React - Code With Mosh
cert_43rswlx9

The Ultimate Redux Course - Code With Mosh
cert_c6qqty60

Introduction to Front-End Development - Coursera
2R7KZYT36JMN

Programming with JavaScript - Coursera
AYWEX5QX6TMV

Data Science Foundation - Great Learning
13680

AWS Cloud Technical Essentials - Coursera
MQ8CBLWWMNZ8

Geospatial and Environmental Analysis - Coursera
QGNDWMM2MX3A

R Programming for Data Science Essentials - Coursera

Spatial Data Science: The New Frontier in Analytics - Esri
64b8d92a7640e8345a461b77

Imagery in Action - Esri
64c6e55bc2c89458e729813b/-300

Image Processing using ERDAS Imagine - Pakistan Space and Upper Atmosphere Research Comission (SUPARCO)

Symposium on Document Image Analysis - Lahore University of Management Sciences

Junior Management Course - PSTD - Pakistan Society for Training and Development

Skills

Team Leadership • Team Management • Digital Strategy • MERN Stack • Django • WPS • Cesium • Redis • Visual Basic .NET (VB.NET) • WinForms

Honors & Awards

Distinguished Service Medal - National Command Authority, Pakistan
Nov 2021

Best Performance Award - SUPARCO
2013

Team Performance Award - SUPARCO
2014