**Muhammad Idrees**

**124 Baba Farid Super market Okara, Punjab**

**Mobile#:+92-323-7788938**

**Email:idreesgis@gmail.com**

**SUMMARY**

* Python development using Django 1.11.
* PHP development using Laravel 5.3.
* GIS development in JAVA using Spring MVC 4 framework and EXTJS 5.0.
* GIS development in ArcObjects.
* Web GIS development in geoserver and mapguide using jsp and java servlets.
* GIS web application development using ArcGIS Server JavaScript API.
* GIS web application development in open source environment like Openlayers4, Leaflet
* Worked on DEM and DSM generation using Stereo-Pairs.
* Digital image pre/post processing using high resolution, multi-spectral imagery.
* Experience of schema design and data handling in Oracle**,** SQL Server, MySQL and Postgres (PostGIS).
* Extraction of results from various satellite images like Landsat 7, Landsat 8, Aster, Worldview 2 and Quickbird using different remote sensing techniques.
* Digitizing and analyzing satellite imagery for the development of Geodatabases.
* Experience of cadastral, parcel and landuse / landcover mapping
* Experience of working in open source (especially in java) as well as commercial projects.
* Worked in different capacities in large organizations
* Experience of project management of different GIS projects of Engineering and IT industry

## SPECIALIZATION

* Spatial Database
* Geo-Spatial System Design
* Fuzzy GIS
* Digital Image processing

**COMPUTING SKILLS**

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| --- | --- |
| Languages | Python, Java, Servlets, JSP, PHP and Javascript, .Net(C#) |
| Operating Systems | Microsoft Windows server 2000, 2012 /XP/Window 7/Windows 8, 8.1 / Windows 10. |
| Tools & Technologies | Django 1.11 Python, Laravel 5.3, Spring MVC 4, ArcGIS, ArcObject, Autodesk Map, ERDAS IMAGINE, ERMapper, Visual Studio, Mapguide, Arcserver, GeoServer, QGIS. |
| Databases | Oracle(Oracle spatial), Postgresql (PostGIS), SQL Server, MySQL. |

**PROJECTS**

**Irrigation Inventory Management System**

* IIMS is a Django based web application for Punjab Irrigation department, showing data, maps, charts, graphs and analysis for commanded area, canals, headworks, barrages, ground water level and ground water quality data. It is a comprehensive application, which has data visualization form of maps, graphs, charts and tables, data analysis, and data management for irrigation network of Punjab.

*Tools and Technologies: Django 1.11, PostgreSQL 9.6, Leaflet, Highmaps, Highcharts, Extjs6.2.0.*

**ADP Schemes Overview**

* A Django based web application for ADP schemes of P&D Department, showing various overview and analysis options for ADP schemes.

*Tools and Technologies: Django 1.11, PostgreSQL 9.6, Jqx, Highmaps, Highcharts.*

**MIS and GIS systems of Social Re-Settlement and Management Plan for Dasu Hydro-power Project**

* Developed GIS application of SRMP showing existing settlements, compensation amount payed to affected persons for different landuse types and proposed re-settlement plans for affected persons.

*Tool and Technologies: Spring MVC 4, Java, ArcServer, PostgreSQL 9.4.*

* Developed MIS application for affectee, landuse, builtup properties and asset management in existing scenario in SRMP of Dasu Hydro-Power Project.

*Tool and Technologies: ASP.net, C#, Visual Studio 2013, SQL Server 2012.*

* Developed LMIS system, a compensation payment flow system consists of various desks starting from Reception desk followed by NADRA verification, Bio-metric verification, Mutation and Invoice desks for compensation award to affected persons against their households, trees and land.

*Tool and Technologies: ASP.net, C#, Visual Studio 2013, SQL Server 2012.*

**Development of MIS and GIS software of Land Computerization for Pakistan Railways**

* Developed GIS application known as Map Viewer for showing land acquired by Pakistan Railway in all over Pakistan, containing its land plans information, yard plan information, chainage and mileage information, khasra information, ownership information overlayed on satellite imagery and revenue masavies.

*Tool and Technologies: Spring MVC 4, Java, ArcServer, PostgreSQL 9.4.*

* Developed editing module for Land computerization of Pakistan Railways. This module provides facilities of parcel editing like split, merge and update. Also provides rank of each parcel like commercial, semi commercial and non-commercial.

*Tool and Technologies: Spring MVC 4, Java, ArcServer, PostgreSQL 9.4.*

**Crop damage assessment during flood 2014 using remotely sensed data in all over Punjab**

* I have worked on crop damage assessment during flood 2014 and pointed out damaged crop using remote sensing techniques for whole Punjab.

*Tools and Technologies: Erdas Imagine 2014, Landsat 8, ArcGIS, PostgreSQL, Python.*

**Automation of wheat procurement system in Dunyapur Tehsil**

* Worked on identification of wheat grown areas and estimation of wheat yield in Dunyapur tehsil District Lodhran a project of UBL using remotely sensed data and techniques. Also developed a calculator which calculates wheat grown area with respect to khatooni number or grower. This calculator also calculates wheat yield with respect to khatooni number using NDVI.

*Tools and Technologies: Erdas Imagine 2014, Landsat 8, ArcGIS, PostgreSQL, C#.*

**Change in forest land of Murree during last 15 years; a Prime Minister’s project for beautification of Murree.**

* Worked on highlighting change in forest land in Murree tehsil during last 15 years using Remotely sensed data.

*Tools and Technologies: Erdas Imagine 2014, Landsat 7, 8. ArcGIS, PostgreSQL,*

**Identification of agricultural potential areas in Quetta district**

* Worked on identification of agricultural potential, semi potential and non-potential areas in Quetta district using remotely sensed data.

*Tools and Technologies: Erdas Imagine 2014, Landsat 8.*

**Google APIs and data link libraries**

* I have developed various applications for downloading google earth imagery, google places data, google street maps etc.

*Tools and Technologies: Visual Studio 2013, C#, GDAL, PostgreSQL..*

**Other Development Projects**

* I have worked in the development of Enterprise GIS of five major cities of Punjab, PND, Model Town, Jallo Park, Changa Manga Forest, UIPT (Urban Immovable Property Tax) for Excise and Taxation Department using Oracle 10g as a backend database for the storage of spatial data.
* MapGuide Server and Studio with Tomcat/Apache configuration as a middle tier.
* With JSP (JAVA Server Pages) and JavaScript as developing languages.
* Using WFS, WMS and WCS, which are web services and GML for GIS provided by OGC (Open GeoSpatial Consortium) for displaying GIS data on the web.
* I have worked in developing JAVA application named “PakArz” first JAVA based GIS desktop application of Pakistan.
* I have worked on developing GIS applications using google earth JavaScript API.s and google maps JavaScript API.s.
* I have worked on developing GIS applications using ArcObjects which are ArcGIS API,s provided by the ESRI EDN(ESRI Development Network) for developing GIS Desktop and Server applications.
* I worked on it because my final project was the development of a desktop application for the Spatio-Temporal Design for Urban planning which developed in Visual Studio 2005 using ArcObjects (which are ArcGIS API,s provided by the ESRI EDN(ESRI Development Network)) using VB.Net.
* “Spatio-Temporal Design for Urban Planning” in Visual Studio 2005 using ArcObjects (which are ArcGIS API,s provided by the ESRI EDN(ESRI Development Network)) using VB.Net for the retrieval of Spatio-Temporal data according to different time spans of the DHA Phase-II which was my M.Sc. (GIS) final project.
* Estimation of dangerous areas around the Ganga River using SDSS Software.
* Vegetation Change Detection using LANDSAT TM Imagery of two different time spans through classifying the images.
* Exploration of minerals in Blochistan using ASTER L1B, LANDSAT TM, Google Earth Imagery in ER Mapper (7x).
* Buffer generation and Route finding for different Oil Seed units of Punjab.
* Choro-chromatic map showing population density and literacy ratio of different UC,s of Sialkot in different colors.
* Creation of DEM (Digital Elevation Model) using contours to analyze the Water Flow Pattern in Northern Areas of Pakistan and generate a 3D movie in Erdas Imagine (9x).

**WORK EXPERIENCE**

* **Total experience: 10 years and 0 months.**

**FERRP P&DD**

**Developer Team Lead since August 1, 2017.**

* Working on Irrigation Inventory Management System using Django 1.11 and PostgreSQL 9.6.
* Working on flood simulation model for Punjab.
* Worked on using Django 1.11, Laravel 5.3 for web application of Annual Development Program Schemes for P&D Department Punjab.

Tools & Technologies used: Django 1.11, Laravel 5.3, PostgreSQL 9.6, Java Spring MVC 4.

**FERRP P&DD**

**Developer from December 2016 to July 2017.**

* Working as a developer using Laravel 5.3 for web application of Annual Development Program Schemes for P&DD.

Tools & Technologies used: Laravel 5.3, PostgreSQL 9.4.

**The SEC Company**

**Consultant MIS/GIS Specialist in SEC DASU-Hydro power project from February 2016 to January 2017.**

* Worked as GIS and MIS Specialist using JSP, Java Servlets, JavaScript, Html for web application of Social Re-Settlement and Management Action Plan.

Tools & Technologies used: Spring MVC 4, JSP, JavaScript, HTML, CSS, ExtJS, PostgreSQL 9.4. ASP.net, C# Telerik Reporting, Visual Studio 2013.

**The Urban Unit**

**Web developer GIS December 2014 to December 2016.**

* Working as a web developer GIS using JSP, Java Servlets, JavaScript, Html for web application of Harvest Inspection through remote sensing.
* Developed desktop application for extraction of road from google maps and saved them to DB.
* Write code and algorithms to devise solution for programming tasks.
* Write stored procedures and implemented database design.

Tools & Technologies used: Spring MVC 4, Java Servlets, JSP, OpenLayers, HTML 5, Easy Eclipse, Visual Studio 2013, C# .NET, PostgreSQL 9.3.

**The Urban Unit**

**Remote sensing (Manager) December 2013 to November 2014**

* Worked as a team leader and performed assigned tasks on several remote sensing projects.
* Developed wheat calculator in Visual studio 2012 using c# independently.
* Process images of different satellites like Landsat 7, Landsat 8, Aster, Worldview 2 and Quickbird
* Perform problem analysis and development tasks assigned by the remote sensing specialist.

Tools & Technologies used: Erdas Imagine 2013, 2014. ER Mapper 7.1, 2014, C# Visual Studio 2010.

**The Urban Unit**

**GIS Developer (Research Associate) Dec. 2009 – November 2013**

* Worked as a team member and performed assigned tasks on several key Intranet based applications.
* Perform problem analysis and development tasks assigned by the team lead.
* Write code and algorithms to devise solution for programming tasks.
* Write stored procedures and implemented database design.
* Helped in the conversion of key applications from COM based architecture to .NET framework based architecture.

Tools & Technologies used: JAVA, Easy Eclipse, Visual Studio (2005 & 2008), VB.NET, Oracle 10g.

**The Urban Unit**

**GIS Developer (Internship) Aug. 2008 – Nov. 2009**

* Architectural designs of application and its implementation of web application.
* Database Design and development of desktop and web applications.
* Design and Development of the reports.

Tools & Technologies used: SQL Server 2005, MapGuide Server and Studio with Tomcat/Apache configuration, ArcGIS 9x, ER Mapper, JSP, JavaScript, AJAX

**Education**

MS RS/GIS from PUCIT, GIS Centre, University of the Punjab Lahore, Pakistan

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| --- | --- | --- | --- |
| **Qualification** | **University/Board** | **Year of Passing** | **Division/CGPA** |
| **MS RS/GIS** | PUCIT Punjab University | 2012-2014 | Research ongoing |
| **M.Sc (GIS)** | PUCIT, University Of Punjab, Lahore | 2006-2008 | 3.10 |

## Publication

1. “Riverine Flood Damage Assessment of Cultivated Lands along Chenab River Using GIS and Remotely Sensed Data” The Journal of GIS, Scientific Research 2015.

[***http://www.scirp.org/journal/PaperInformation.aspx?PaperID=60444***](http://www.scirp.org/journal/PaperInformation.aspx?PaperID=60444)***.***

1. “Spatiotemporal Analysis of Urban Sprawl and Its Contributions to Climate and Environment of Peshawar Using Remote Sensing and GIS Techniques” The Journal of GIS, Scientific Research 2016.

[***http://www.scirp.org/journal/PaperInformation.aspx?PaperID=64893***](http://www.scirp.org/journal/PaperInformation.aspx?PaperID=64893)***.***

1. "Spatio-temporal design for urban planning." The GIS Development .net, September 2009

[***https://www.geospatialworld.net/article/spatio-temporal-design-for-urban-planning/***](https://www.geospatialworld.net/article/spatio-temporal-design-for-urban-planning/)

**References**

Will be available on demand.