

CURRICULAM VITAE

PERSONAL INFORMATION

Name **Musharraf Ali**
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Nationality Pakistani
Date of Birth March 23, 1994

Career Objective To work with maximum potential to achieve high carrier growth through a continuous learning process and enhance my problem-solving skills in a creative manner to keep myself dynamic, visionary and competitive with the changing scenario of the world.



EDUCATIONS & TRAININGS

Education: Date (From-To) **SEP 2014 – JUN 2018**
Name of Organization **Institute of Geographical Information Systems (IGIS-NUST) Islamabad-Pakistan**
Title of Qualification Awarded **BACHELORS OF ENGINEERING IN GEO-INFORMATICS**
Principle Subjects Spatial Decision Support Systems, Spatial Databases, Data Warehousing & Data Mining, Web GIS, Digital Mapping and Image Processing, Cartography and Map Production, Computer Aided Design, Introduction to Urban & Transport Planning, Geodesy & Map Projections, Environmental Impact Assessment, Spatial Data Analysis, Photogrammetry, Linear Algebra and Ordinary Differential Equations, Calculus and Analytical Geometry, Object Oriented Programming, Data Structures and Algorithm, Database Management System, Surveying I & II, GPS Survey, Engineering Geology, Water Supply and Waste Water Engineering, Land Use Planning, Digital Image Processing, Machine Learning
Major GPA: 4.00 **Cumulative GPA: 3.42/-**
Level in National Taxonomy **Bachelors in Engineering (BE)**
Title of Qualification Awarded **Intermediate:** Pre- Engineering (Physics, Chemistry & Mathematics)
Date (From-To) **SEP 2012 – JUL 2014**
Marks Obtained **904** out of **1100/-**
Title of Qualification Awarded **Matric:** Science Group (Physics, Chemistry, Mathematics & Biology)
Date (From-To) **SEP 2010 – JUL 2012**
Marks Obtained **898** out of **1050/-**

INTERNSHIPS / TRAININGS

Date (From-To) **JUL 2017 – AUG 2017**
Name of Organization **Defence Housing Authority (DHA), Islamabad**
Training Attending summer internship program at Land Directorate Department as a Land Records Manager & Analyst at DHA. Analyze data for processing information and organizing data for convenient access. Highly adept at evaluating and improving records storage, collection, retrieval procedures and visualization using web maps(Geo-Server).
Date (From-To) **JUL 2016 – SEP 2016**
Name of Organization **Command, Control, Communication, And Computer Intelligence (C4I), GHQs**
Training This Experience has imparted me about the practical applications of GIS and RS. Build a model in ArcGIS Model Builder for satellites images or data and their pre-processing methods including Radiometric correction & Pan-sharpening. To visualize the "Land Cover Changes" over an area Using Different Techniques of Classification.

CO-CURRICULAR / EXTRA-CURRICULAR ACTIVITIES

Interests / Hobbies	Reading, Coin Collection, Drawing, Poetry, Gardening
Sports / Physical Activities	Football, Badminton, Cricket, Jogging/Walking
Saddle Club (Horse Riding)	Walk, Trot, Bompar Trot, Canter, Gallop Pace

PERSONAL / Software SKILLS AND COMPETENCIES

GIS & RS	ArcGIS, ERDAS IMAGINE, ILWIS, QGIS, IDRISI (Land Change Modeler)
DRAWINGS	Auto CAD, Micro Survey CAD, Ink-Scape, Adobe Photoshop, Adobe illustrator
OPEN SOURCES	Open Street Maps, QGIS, and Geo Server, OpenRefine (Google Refine)
DATABASE/DBMS	PostgreSQL, MySQL Server workbench, MS Access
OFFICES SOFTWARES	MS Word, MS Excel, MS PowerPoint, Endnote
MODELING SOFTWARES	EPANET (Hydraulic Analysis Package for Water Supply Networks)
TEXT & GRAPHIC EDITOR	MS Visual Studio, Dev. C++ and Notepad++
HARDWARE EQUIPMENTS	GPS and other Survey Equipment (Auto level, Total Station)
NUMERICALS COMPUTING	MATLAB (Image Processing)
PROGRAMMING LANGUAGE	C, C++, C#, PYTHON, Basic Java, HTML, CSS, Structure Query Language (SQL)

HONORS / AWARDS AND COMPETENCIES

- ❖ Granted with “**NUST Academic High Achievers Merit Scholarship**” four time competing in department
- ❖ Awardee of Merit & Need Base “**HEC PAK USAID Merit & Need Based Scholarship Program Phase II**”
- ❖ Secured **Second Highest Marks Achiever** at College & at School level in matric & intermediate education
- ❖ Succeeded in Summer Training Program “**Punjab Boy Scouts Association, 2012**” at Ghora Galli, Murree
- ❖ Earned Merit Certificate held on topic “**Change in Behavior, 2017**” by CDA Training Academy Islamabad
- ❖ Awarded Certificate by NUST Institute of Peace and Conflict Studies (NIPCONS) on successfully complete the course named “**IPS-101 International Peace & Security, 2017**” of 2 credit hours at summer campus
- ❖ FYP Nominate for final stage at FICS “**Finding Innovative & Creative Solution for Society, 2018**” finale

SOCIAL SKILLS AND COMPETENCIES

- ❖ “**Strengthen the Weak**” to provide a smart phone based solution for violence against women & children
- ❖ Participatory of NUST Charity Drive “**Al QALAM**” project for needy students as well as for Orphan Childs
- ❖ Participatory of local Charity organization named “**Tesserect Pakistan**” for donation drive in Islamabad
- ❖ Facilitate the NGOs “**Acts of Kindness**” & “**United Youth Forum**” in donation drive events at Islamabad
- ❖ Participant in “**Intra-NUST Declamation, 2015**” competition in Poetry Contest at SEECS-NUST campus
- ❖ Participant in “**Popsicle Stick Bridge Competition, 2015**” event arrange by ASCI at SCEE-NUST campus
- ❖ Lead Donation Drive to collect Clothes & Shoes among the needy people as **Community Service Project**
- ❖ Social Languages: Fluent in English, Urdu and Punjabi

ORGANIZATION SKILLS AND COMPETENCIES

- ❖ Volunteer Organizer in “**Map it Pakistan, 2017**” competition held with collaboration of LMKT- Islamabad
- ❖ Volunteer Logistics Head Coordinator in “**ESRI GISDAY NUST, 2016 and 2017**” events held at IGIS-NUST
- ❖ Volunteer Event Management Head Coordinator of “**NUST Aero Modeling Club**” Society at NUST campus
- ❖ Organize Domestic Trips to coordinate **Transportation, Accommodation & Itineraries** for client/friend
- ❖ Executive team member of a Social Society name “**NUST Book Club**” leading by students at NUST campus
- ❖ Galactic Team Member in organizing international mass collaboration workshop focused on space exploration organize by NASA “**International Space Apps Challenge, 2017**” at NUST Campus, Islamabad

REFERENCES: References will be furnished on demand

List of Semester Projects

- **3D Geologic Mapping** in Arc-Scene & **3D Buildings Model** of Purdue Uni, in Erdas Imagine Stereo Analyst Model
- **Land Surface Temperature** tool using Python Script & **Calculate River Width** from (Landsat & MODIS) in Arcgis
- **Suitable Site Selection** for school in a city by Multi-Criteria Decision Analysis method using ArcGIS Model Builder
- **Topographic Map** by Total Station to collect data & import in Micro-Survey CAD and **Plane Table Survey** of NUST
- **Land Use Classification Maps** to analyze the temporal changes of Land Use over an area using the satellite images
- **Spectral Curve Recognition** to identify Agricultural Land-Use classes (Crop Cycle) along with the area knowledge
- **Water Supply and Waste-Water** collection network analysis for NUST Using “EPANET” prepared a detailed report
- **Hypothetical Plan** of M-9 Motorway construction including WBS, OBS & Assign Duration to Activities in Primavera
- **Library Management System** in C++ and **MOBILE BLOOD BANK** in C# using a complete online Spatial Databases
- **Earthquake Vulnerability Assessment & Analysis** of Islamabad by Integrate Analytical Hierarchy Process & GIS
- **Developed Web Based SDSS** for Needy People to find jobs by Scraping Jobs data based on their skills and locations
- **Analyze** NUST Transportation System Pattern based on Trip Generation & Distribution of vehicles and pedestrians
- **Predict Flights** to Avoid for Travelling due to frequently Delay in Arrival and Departure Time, based on their Temporal, Spatial and Carrier Effects Using 65k observations of Commercial and Domestic flights data in America

Labs Experience

- Boundless an Open Source **Geo-Suit** (PostGIS) for Creating Spatial Database, Loading Spatial Data, Simple SQL, Geometries, Spatial Joins, Spatial Indexing and Projecting spatial data Exercises as lab exercises in Spatial Databases
- Working with Python Libraries (**GDAL/OGR**) for Reading and Writing Geo-Spatial Data, Map Projections and Accessing Data by Cursors (search, insert or update) using **ArcPy** as lab exercises in Spatial Decision Support System
- **Geo-referencing**, Layer Stacking, Mosaicking, Classification, Image sub-setting, Vegetation Indexes, Batch Process, Spatial Modeler, Stereo Analysts, Spatial, Radiometric, Spectral **Enhancement**, Accuracy Assessment as lab exercises
- **Create** Annotate & Shadow Layer, Labeling Map, Designing Callouts, Halos, Line & Character Spacing as lab exercises
- **Data Classification** Techniques (Decision Trees, Bayesian Classification, kNN, SVM), Data Preprocessing, Apriori & FP Tree Associations, Data Clustering Techniques (Partitioning, Hierarchical & Density Based Approaches) by **WEKA**
- **Data Cleaning** by Google Refine, **ETL** Techniques by MS SQL-Server Integration Services & Design Data **Warehouse**
- **MATLAB** for Segmenting Text & Graphics, Edge Detection, Morphological Operation, Pixel Connectivity, Run length smoothing algorithm, Steganography, Intensity Transformations, **GUIs** as lab exercises in Digital Image Processing

Final Year Project

- **Development of GIS Based Application Platform for the welfare of Homeless and Internally Displaced Persons** (IDPs) having Collaboration with HomelessEntrepreneur (Barcelona based Non-Profit Organization) to end homelessness by facilitating opportunities to make them self sufficient.

Survey was conducted that provide:

- Conditions of homeless in Islamabad and Rawalpindi
- Facilities available in twin cities
- Employability of homeless

Developed an internet based Android application having:

- Social network capabilities to connect community with deserving homeless persons
- Donations like cash, clothing, health care services, personal grooming services, etc.

- **Professional Experience**

Currently working at Hagler Bailly Pakistan, associated with Tetra Tech, Inc. USA, which providing international consulting services in energy, environment and technology management as **GIS Assistant**.