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/profile/Adeel_Ahmad7 scholar.google.com.pk/citations?user=BOSP4FEAAA&hl=en @Adeel_GIS
https://www.youtube.com/c/AdeelAhmad



SKILL SETS

<i>Imagery and Analysis</i>	<i>GIS/ RS Processing</i>	<i>Programming Skills</i>	<i>Writing and Communication Skills</i>
Landsat, Sentinel-2 & SPOT-5 Landuse/ Landcover Analysis Landscape Metrics Multi-Criteria Analysis	Image Processing Image Classification Geographic Visualizations Cartography/ Mapping	Google Earth Engine R Python	Report Writing and Communication Presentation Preparation and Delivery Research Writing Literature Reviewing

EDUCATION

Ph.D. in Geomatics

2022

Thesis Title: Spatial Resource Assessment of Forests in Azad Jammu and Kashmir, Pakistan using Optical Remote Sensing

M.Phil. in Geomatics | CGPA: 3.87

2013

Thesis: Quantification of Carbon Stock using Geospatial Technology in the Moist Temperate Himalayan Forest in Pakistan
Term Project: Species distribution modeling of *Strix Varia* (owl) in specific ecological settings using desktop GARP and GIS

University of the Punjab, Lahore - Pakistan

B.S. in Geography | CGPA: 3.88

2010

Areas of Concentration: Physical Geography, Digital Cartography, GIS & Remote Sensing

AWARDS

1st Position Holder Certificate, M.Phil. Geomatics

January 2014

University Gold-Medalist, B.S. Geography

January 2012

Merit Scholarships, M.Phil. Geomatics

October 2011 – June 2013

Merit Scholarships, B.S. Geography

January 2007 – June 2010

TEACHING EXPERIENCE

Department of Geography, University of the Punjab

Assistant Professor (Adhoc)

June 2022 – to-date

Recently appointed as Assistant Professor at the Department of Geography, University of the Punjab, Lahore-Pakistan. On this role, I will be supervising more master's and Doctoral research along with continuing other responsibilities of being student advisor, departmental controller of examination, member board of studies and similar. I will be focusing more on research at national-level scales using geospatial data and techniques.

Department of Geography, University of the Punjab

Lecturer

September 2018 – June 2022

Taught undergraduate and master's classes the subjects related to Geographic Thought, Fundamentals of Geography, GIS, Remote Sensing, Cartography and Computer Mapping (Theory and Practical). Serving as internal and external examiner for different subjects at University Departments. Involved in various research with colleagues and students related to applied geospatial techniques for earth resource assessment including land use/ land cover dynamics, soil erosion modeling, temporal surface water change and studies related to drivers, factors, and impacts of urbanization. Along with teaching activities, I have following responsibilities:

- Student Advisor: Providing guidance and assistance to students by planning schedules, recommending readings/ solutions, and determining suitable education solutions for diverse types of students. Facilitating in organization of different curricular and extra-curricular events at the Department including sports weeks, seminars, guest lectures and field trips.
- Departmental Controller of Examination: Supervising all matters concerned with the conduction of examination including preparation and display of results notifications for all programs at the department.
- Member of Board of Studies: Aiding in curriculum preparation, upgradation, and approval for the faculty of sciences under head of department and dean's supervision.
- Departmental Focal Person for Career Counseling and Placement: Aiding students in building future educational or career paths by evaluating their personal interests and tendencies.

- Conference Secretary: Organized 16th All Pakistan Geographical Conference (APGC) from 11th – 13th March 2021.

Postgraduate (M.Phil.) Research Supervisions:

- Aneeq ur Rehman (M.Phil. Geomatics 2018-2020): *Selection of Disposal Waste Site using Multi Criteria Decision Making Analysis and GIS in Dera Ghazi Khan District, Pakistan.*

College of Earth & Environmental Sciences (CEES), University of the Punjab

Visiting Lecturer

September 2015 – June 2016

Taught two courses, one to undergraduate environmental sciences students the subject of "GIS & RS" and one to graduate (M.Phil.) Geomatics students the subject of "Environmental Modeling & Spatial Simulation." Major topics that were taught include "Multicriteria Analysis for Site Suitability," "Criteria Weighing using AHP technique," "Service Area analysis," "Watershed Analysis and Modeling" and "Android based GIS mobile data collection".

Forman Christian College (A Chartered University)

Lecturer – GIS/ Geography

August 2014 – September 2018

Developed syllabus of Geospatial concentration subjects in Geography stream and overall course structure, administered all grades. Functioned as advisor to Dean Geographical student Society (DGS), managed and supervised major events, seminars and open houses, introduced upgraded class activities to enhance learning, completed various learning and development courses at and outside university, linking academic activities and students to industries through field trips.

Undergraduate (BS) Research Supervisions:

- Baseer Ahmed (B.Sc. Hons. Geography/ GIS 2014-2018): *Assessing Groundwater Depletion in Quetta Valley using GIS Analysis and Its Impacts on local Residents*
- Nouman Afzal (B.Sc. Hons. Geography/ GIS 2014-2018): *GIS-based Landslide Susceptibility Mapping using AHP, A Case Study of Astore Region, Northern Area of Pakistan*
- Shah Rukh Khan (B.Sc. Hons. Geography/ GIS 2014-2017): *Impact Assessment of CPEC on the Urbanization using Geospatial Data and Techniques (A case study of Gwadar District)*

Institute of Geology, University of the Punjab

Research Associate

August 2012 – July 2013

Took practical labs of GIS for master's Geomatics and Undergraduate Geology classes, worked on different research articles, involved in assisting students regarding GIS mapping, managed geospatial data in Geomatics lab.

Department of Geography, University of the Punjab

Lecturer

February 2011 – March 2012

Taught techniques in GIS/ RS (Practical), Fundamentals of GIS, Principles of Remote Sensing, Surveying, Map Reading & Interpretation and Global Positioning System (GPS) to undergraduate and master's classes, organized national event on disaster management and arranged field trips of students.

WORK EXPERIENCE

MM Pakistan Private Limited

GIS Analyst

August 2013 – August 2014

Worked on various national and international projects. Key contributions involved development of Irrigation network, Landuse/ Landcover (LULC) mapping, resettlement plans and maps, drainage mapping, locational maps, EIA maps, irrigation mapping, watershed mapping and modeling, road and railway mapping using ArcGIS for mapping and ERDAS imagine for image classification.

Eycon Private Limited

GIS Associate

November 2010 – February 2011

Worked on development of cartographic small- and large-scale maps from initial step of data collection, data management, geo-referencing of images, analysis (Proximity, Overlay, Feature extraction, spatial analysis, projection, transformation) to the last step of printing more than 1600 maps.

Grass-Root Human Deployment Organization (GODH)

GIS Resource Person

September 2010 – November 2010

Responsibilities were to develop a botanical herbal distribution wall-size map of Punjab district (Urdu- Labeled) through primary data collection.

Directorate General of Mines & Minerals, Government of Punjab (GoP)

GIS Intern**February 2010 – March 2010**

Responsibilities were to develop spatial data of various geological sheets for the regions of Jhelum and Rawalpindi through digitization incorporating the snapping and tracing environment in ArcGIS v.9.3 software. The initial task was to geo-reference the geological sheets through absolute and relative Georeferencing techniques while coordinates were converted using the coordinate converter tool in Erdas Imagine v.9.1 software.

TRAINING EXPERIENCE

Kinnaird College for Women University, Lahore

Remote Sensing/ GIS Workshop Resource Person**November 2018**

Served as resource person for 1-day workshop on “Applications of Remote Sensing in Geography” for Department of Geography, Kinnaird College for Women University, Lahore. The focus of the workshop was on “Landuse/ Landcover (LULC) Classification”

Water Management Training Institute (WMTI), Government of Punjab, Lahore

GIS Training Instructor**May 2017 and January 2018**

Trained over fifty government officers on basics of Global Positioning System (GPS), Field Data Collection using GPS, Geographical Information System (GIS) and advanced techniques on watershed modeling. The course was comprised of three weeks each year.

International Conference ETEES, University of the Punjab, Lahore

GIS Trainer (Pre-Conference Workshop)**March 2017**

Trained the participants of first international conference on Emerging Trends in Earth and Environmental Sciences (ETEES) organized by the College of Earth and Environmental Sciences (CEES), University of the Punjab, Lahore on hands-on exercises of GIS software.

Map Give Pakistan, U.S. Consulate, Lahore

Mapping Co-Trainer**November 2015**

In the context of Humanitarian Mapping, participated as co-trainer for online mapping for humanitarian disaster responses. The training took place at Kinnaird College for Women University (KCWU) and Forman Christian College University (FCCU). The certificate distribution ceremony took place at U.S. Consulate Lahore Office.

University of the Punjab

GIS Short Course Training Instructor**February 2011 – August 2016**

Conducted one-month short course on basics of Geographical Information System (GIS) six times at University of the Punjab. All short courses included hands-on practice on ESRI's ArcGIS (9x – 10x) software as well as theoretical lectures.

PROJECT CONTRIBUTIONS

- Monitoring & Evaluation of Punjab Agriculture Productivity Improvement Project (PIPIP) | Donor Agency: **World Bank**
- Planning and Preparation of Detailed Design and PC-1 of 7 Number Medium Dams in Kirthar Mountains in Kohistan Region Sindh | Donor Agency: **World Bank** and Irrigation and Power Department, Government of Sindh, Pakistan
- Feasibility Study for Rehabilitation & Modernization of Guddu Barrage – Assignment A | Donor Agency: **World Bank**
- Planning, Design and Project Management Consultancy Services for Zarkon Hills Project | Donor Agency: Zarkon International (Pvt) Ltd.
- Consultancy Services for Feasibility Studies, PC-1, Tender Documents, Procurement of Plant and Construction Supervision of 50 MW Imported Thermal Power Projects on EPC Basis at Industrial Estates (i) Sunder Lahore (ii) M-3 Industrial City Faisalabad | Donor Agency: Punjab Power Development Company Limited (PPDCL), Pakistan
- Construction Supervision of Kurram Tangi Dam | Donor Agency: **World Bank** and WAPDA, Pakistan
- Preparing Irrigation Master Plan for SATPARA Dam Command Area Projects | Donor Agency: **Asian Development Bank (ADB)** and Agha Khan Foundation, Pakistan
- Punjab Barrages Improvement Project Phase 2 (PBIP - II) | Donor Agency: **World Bank**
- Sediment Management Study of Tarbela Reservoir | Donor Agency: **World Bank** and WAPDA, Pakistan
- Solid Waste Management Studies of Towns of Central Cluster of Province of Sindh under Sindh Cities Improvement Program Phase - 04 (SCIP-IV) | Donor Agency: **Asian Development Bank (ADB)** and Brisbane City Enterprises Pvt. Ltd.
- District-wise Socio-Economic ATLAS Development of Balochistan Province, Pakistan | Donor Agency: **UNICEF**

CERTIFICATIONS

- ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) - MOOC
Cartography
May 2018 - Jun 2018
- ELSEVIER PUBLISHING CAMPUS
Jul 2017 - Jul 2017

- Making Sense of Science Stories, Preparing Your Manuscript
- PMAS - ARID AGRICULTURE UNIVERSITY, RAWALPINDI. Dec 2015 - Dec 2015
Mobile GIS Data Collection and Management
 - NASA – APPLIED REMOTE SENSING TRAINING (ARSET) Mar 2015 - Apr 2015
Introduction to Global Precipitation Measurement (GPM) Data and Applications
 - THE CANVAS NETWORK Feb 2015 - Mar 2015
Introduction to Geospatial Technology using QGIS
 - ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) Jan 2012 - Jul 2012
ESRI Web Courses
 - EYCON PRIVATE LIMITED. Sep 2011 - Nov 2011
Web GIS (Beginner's Level)
 - UNIVERSITY OF THE PUNJAB, LAHORE. Nov 2009 - Dec 2009
Remote Sensing
 - UNIVERSITY OF THE PUNJAB, LAHORE. Sep 2009 - Sep 2009
Global Positioning System (GPS)
 - UNIVERSITY OF THE PUNJAB, LAHORE. Jul 2009 - Aug 2009
GIS and Map Surfer

PUBLICATIONS AND PAPERS

Journal Articles

- Gilani H, **Ahmad A**, Younes I, & Abbas S (2022). Impact assessment of land cover and land use changes on soil erosion changes (2005–2015) in Pakistan. *Land Degradation & Development*, 33(1), 204–217. <https://doi.org/10.1002/ldr.4138>
- Tufail R, **Ahmad A**, Javed MA, and Ahmad SR (2021). A machine learning approach for accurate crop type mapping using combined SAR and optical time series data. *Advances in Space Research*. <https://doi.org/10.1016/j.asr.2021.09.019>
- **Ahmad A**, Ahmad SR, Gilani H, Tariq A, Zhao N, Aslam RW and Mumtaz F (2021). A Synthesis of Spatial Forest Assessment Studies Using Remote Sensing Data and Techniques in Pakistan. *Forests*, 12 (9), 1211. <https://doi.org/10.3390/f12091211>
- Ahmed N, Wang G, Booj M J, Ceribasi, G, Bhat, M S, Ceyhunlu, A I, and **Ahmed A** (2021). Changes in monthly streamflow in the Hindukush – Karakoram – Himalaya Region of Pakistan using innovative polygon trend analysis. *Stochastic Environmental Research and Risk Assessment*, 35(9). <https://doi.org/10.1007/s00477-021-02067-0>
- **Ahmad A**, Gilani H, and Ahmad SR (2021). Forest Aboveground Biomass Estimation and Mapping through High-Resolution Optical Satellite Imagery—A Literature Review. *Forests*. 12, 914. <https://doi.org/10.3390/f12070914>
- Hassan I, Javed MA, Asif M, Luqman M, Ahmad SR, **Ahmad A**, Akhtar S and Hussain B (2020). Weighted Overlay Based Land Suitability Analysis of Agriculture Land in Azad Jammu and Kashmir Using GIS and AHP. *Pakistan Journal of Agricultural Sciences*. 57(6):1509-1519. <https://doi.org/10.21162/PAKJAS/20.9507>
- Tong SS, Pham TL, Nguyen QL, Le TTH, Trinh LH, Cao XC, **Ahmad A** and Tong THA (2020) The study of land cover change using change vector approach integrated with unsupervised classification method: A case in duy tien (Vietnam). *Geogr Environ Sustain* 13:175–184. <https://doi.org/10.24057/2071-9388-2019-62>
- Dung NB, Minh DT, **Ahmad A** and Long NQ (2020) The role of relative slope length in flood hazard mapping using AHP and GIS (Case study: Lam River basin, Vietnam). *Geogr Environ Sustain* 13:115–123. <https://doi.org/10.24057/2071-9388-2020-48>
- Ashraf N, Rashid S, **Ahmad A** and Javed MA (2020) Assessment of Land Suitability for Tea Cultivation Using Geo-Informatics in the Mansehra and Abbottabad District. *Pak J Sci Ind Res* 63A:65–70. <https://v3.pjsir.org/index.php/physical-sciences/issue/view/28>
- Jahan Z, Sarwar F, Younes I, Sadaf R and **Ahmad A** (2019) Assessment of Smog Pattern and its Effects on Visibility in Lahore Using Remote Sensing and GIS. *Int J Econ Environ Geol* 10:55–59. <https://doi.org/10.1119/1.2218359>
- Nam BUIX, Changwoo LEE, Long NQ and **Ahmad A**, Cao XC, Nghia NV, Canh LC, Hoang N, Thao LQ, Huong DT, Duc NV (2019) Use of Unmanned Aerial Vehicles for 3D topographic Mapping and Monitoring the Air Quality of Open-pit Mines. *Inżynieria Miner – J Polish Miner Eng Soc* 44:222–238. <https://doi.org/http://doi.org/10.29227/IM-2019-02-77>
- Nguyen LQ, **Ahmad A**, Cao CX and Le C Van (2018) Designing observation lines: a case study of the G9 seam in the Mong Duong colliery. *J Min Earth Sci* 59:28–34. <https://tinyurl.com/r24h7sp>
- **Ahmad A**, Javaid U, Javed MA, Ahmad SR, Jaffri MA and Ashfaq M (2016) Landfill Sites Identification Using GIS and Multi-Criteria Method: A Case Study of Intermediate City of Punjab, Pakistan. *J Geogr Inf Syst* 8:40–49. <https://doi.org/10.4236/jgis.2016.81004>
- Javaid U, Ahmad SR, **Ahmad A**, Javed MA and Taj AA (2015) Assessment of Transit Stops Service Area using Geographical Information System – A Case Study of Punjab University Transportation. *Pak J Sci* 67:350–358. <https://tinyurl.com/ydcb2yvq>

- Javed M, Ahmad S and **Ahmad A (2013)** Assessment of Neighborhood Parks using GIS Techniques in Sheikhpura City. *Pak J Sci* 65:305–311. <https://tinyurl.com/ydz7u6j3>

Book Chapter

- **Ahmad A**, Gilani H, Shirazi SA, Pourghasemi H R, and Shaukat I (2022). Spatiotemporal urban sprawl and land resource assessment using Google Earth Engine platform in Lahore district, Pakistan. In H. R. Pourghasemi (Ed.), *Computers in Earth and Environmental Sciences* (pp. 137–150). Elsevier. <https://doi.org/10.1016/B978-0-323-89861-4.00023-3>
- Shirazi SA, **Ahmad A**, and Qureshi S (2020) Assessing the Impact of Land Use and Land Cover (LULC) Changes on the Biodiversity of River Ravi, Lahore- Pakistan. In *Making Green Cities*, edited by Jürgen Heinz Breuste, Martina Artmann, Cristian Ioja and Salman Qureshi, 220-233. Springer International Publishing. <https://doi.org/10.1007/978-3-030-37716-8>
- Akram W, **Ahmad A**, Javed MA and Raof A (2017) Exploring Existing Spatial Patterns of Diarrhea and Proposing New Health Unit Using GIS in District Vehari, Punjab Pakistan. In *Geo-Spatial Technologies and Earth Resources 2017 (GTER 2017)*, by N.Q. Long, P.T. Lan, N.V. Nghia, K.T. Hung, L.T.T. Ha and L.P. Hien, 83-90. Hanoi: Publishing House for Science and Technology. <https://tinyurl.com/ul848w7>

Conference Presentations [Oral]

- **Ahmad A**, Ahmad SR, Javaid U and Javed MA "Above Ground Carbon Quantification in a Moist Temperate Himalayan Forest." *First International Conference on Emerging Trends in Earth and Environmental Sciences (ETEES)*. Lahore, **2017**. <https://tinyurl.com/ya3pjuoh>
- Ahmad SR, **Ahmad A**, Javaid U, and Javed MA. "Multi-Criteria based Landfill Sites Identification by using GIS: A Case Study of Sahiwal Tehsil, Pakistan." *International Conference on Aerospace Science and Engineering (ICASE)*. Islamabad: IEEE, 2013.
- Ahmad SR, Javaid U, **Ahmad A**, and Taj AA. "Assessment of Transit Stop Service Area using GIS: A Case Study of Punjab University Transportation." *International Conference on Aerospace Science and Engineering (ICASE)*. Islamabad: IEEE, **2013**.
- **Ahmad A**, Ali S and Mushtaq A. "Analyzing health facility localities in relation with population distribution using GIS techniques for Lahore city." *5th National Undergraduate Medical Research Fair*. Peshawar, **2012**.

Conference Presentations [Poster]

- Ali M, Ahmad SR, Javed MA, **Ahmad A**, and Waqas M. "A GIS Based Water Loss Assessment and Real Time Leakage Detection in Water Supply Pipelines of Faisalabad City." *The First International Conference on Emerging Trends in Earth and Environmental Sciences*. Lahore, **2017**. <https://tinyurl.com/yb6tunxt>
- Sanaullah M, and **Ahmad A**. "Morphometric Relation to the Geological Structures of Haro River Drainage Basin, Northern Pakistan." *10th Meeting of the Saudi Society for Geosciences: Geosciences for Sustainable Development*. Dhahran, **2013**. <https://tinyurl.com/yap984w8>

Magazines

- **Ahmad A**, Gilani H, Shirazi SA, Pourghasemi HR and Shaukat I (2022, April). Lahore, the city of gardens, has lost 70% of its tree cover (باغوں کا شہر لاہور اپنے 70 فیصد درختوں سے محروم ہو چکا ہے). *Express Sunday Magazine*, <https://www.express.pk/story/2314134/1>
- Gilani H and **Ahmad A** (2018, October). Lahore is losing its green cover - fast. *MIT Technology Review*, <http://www.technologyreview.pk/lahore-is-losing-its-green-cover-fast/>

COUNTRIES VISITED

Saudi Arabia | Vietnam

LANGUAGES

English - Working Efficiency | Urdu – Native | Punjabi – Moderate in writing, proficient in speaking and listening

REFEREE

Will be furnished upon request.