ABHISHEK AKARAM PATIL

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PERSONAL STATEMENT

Actively embedding GIS workflows into scientific and environmental teams' systems— streamlining their desktop & field tasks to make work faster, more accurate, & just a bit more exciting than endless spreadsheets & manual mapping. Because who doesn't love saving time & looking good on a dashboard? Skilled in programming with Python & R for Earth Observation, SAR Processing, Web Mapping, & Spatial Data analysis. Experienced in using tools & scripts for data extraction & manipulation (including Satellites, UAV & USV). Proficient in GIS & Remote Sensing software such as ArcGIS, QGIS, Agisoft Metashape, GEE, and ERDAS Imagine. Committed to supporting businesses by integrating geospatial data to enhance decision-making efficiency. Moreover, with previous professional experience, demonstrates competency in leadership, communication, managing people & resources, & fostering relationships with stakeholders.

KEY ACHIEVEMENTS

- Within 3 months, featured in Wessex's Environmental Solutions & Estates newsletter for building a dashboard.
- Recognised as a 'Top Geographical Information Systems (GIS) Voice' by LinkedIn
- Appointed on a panel of experts for Geography subject at Amity University, Noida, India. (2023)
- Fellow of the Royal Geographical Society (RGS), UK (Applying for Chartership)
- Recipient of NESA UGRAD, a fully funded scholarship by the U.S. govt. (One of the 5 students from India)
- Awarded the University of Glasgow International Leadership Scholarship of £10,000.

PROFESSIONAL EXPERIENCE

GIS Specialist for Smart Rivers Programme (CWQM)
Environmental Solutions & Customer Compliances, Wessex Water, YTL, UK   Dec 2024 - Present

- Led initiatives to embed GIS-based database management into core workflows across the Environmental Solutions team (100+ staff), promoting **GIS awareness and adoption** across disciplines. Acted as a key liaison between technical and non-technical teams to translate complex geospatial data into actionable decisions with **ESRI tools**.
- Developed **spatial digital workflows** with Python, ESRI tools, FME & SQL to support the deployment & management of approximately 2,000 sensors across 1,200 sites as part of the Section 82 CWQM program. Also created tailored GIS solutions for projects in **Land Entry, Ecology, Planning,** & **Environmental Investigations**.
- Developed **GIS dashboards** using Web App Builder, **Experience Builder, Instant Apps, Image Server, Utility Network, Mobile Apps** --enabling spatial data visualisation, editing, analysis, and database management.
- Designed workflows with mobile apps **Survey123, & fieldmaps** for the survey team to optimise data collection. Planned & processed **USV & UAV surveys** i.e. point clouds, ortho images etc.
- Developed a workflow for designing and building **a 360-degree viewer** for monitoring sites & assets.
- Collaborated with cross-functional teams to integrate datasets, streamline reporting processes, **develop a project tracker**, & enable real-time water quality **data visualisation for public-facing dashboards.**
- Building an **AI-powered bots** for spatial layer searches to enhance data visibility within the organisation
- Supported **outreach campaigns and data transparency** initiatives by **building tools & maps** along with **data analysis** that helped new stakeholders and users explore the various initiatives and assess environmental impact.
- **Integrated diverse data sources**—including the Land Registry, Ordnance Survey, Environment Agency (EA), CEH, various sensors, satellite and drone imagery, APIs, and field surveys—using ESRI tools and Python.

Geospatial Technician – Civil Servant, Land Mapping Team
Director-General Net Zero, Scottish Government   Sept 2024 – Dec 2024

- Developed expertise in land mapping and case management using **bespoke GIS software LIPIS and aerial photography.**
- Conducted **habitat mapping** for biodiversity audits**.**
- Handled complex cases and **customer service enquiries**, ensuring efficient delivery of rural support services.
- Supported various government departments with spatial data visualisation and analysis.

GIS & Remote Sensing Expert - Network Planner:
Environmental Management & Planning Dept., AMN Ltd., Milton Keynes, England, UK   Sept 2023 – Sept 2024
UK based AMN - builds, owns, operates and maintains mobile network infrastructure in Africa and Latin America.

- Led the design and deployment of **GIS-enabled planning systems** for mobile network expansion across Africa and Latin America—serving both internal stakeholders and underserved communities. Transformed company's manual planning into a comprehensive GIS-based planning system using **ArcGIS Pro, AGOL, Experience Builder,** and **Web Mapping**, increasing efficiency by 25%. Conducted **site suitability** analysation.

- Optimised **spatial data management & analysis** processes by introducing efficient **ETL workflows** that reduced processing time by 75%. Delivered actionable insights through geospatial analysis.
- Collaborated with country managers and surveyors, enabling them to troubleshoot, adopt, and scale automated workflows using **Survey123** and ArcGIS tools. Delivered tailored **training programs** and hands-on support, to improve data accuracy.
- Contributed to **outreach and communications** efforts by producing accessible dashboards that helped illustrate impact in underserved communities.
- Managed the **Master Site Database** & introduced **quality control** measures, achieving 95% error-free GIS datasets.

Assistant Professor of Geography:
PES's Modern College of Arts, Science, and Commerce College, Pune, India   Jul 2019 - May 2022
- **Delivered 21 hours of weekly lectures** on Geography, Cartography, Environment, GIS and Remote Sensing.
- Led **student-driven geospatial initiatives** in collaboration with NGOs and civic groups, using open-source tools.
- Designed and implemented experiential learning modules that integrated classroom teaching with community mapping activities—training students in the use of tools like **QGIS**, Bhuvan Panchayat, and India-WRIS to collect, visualise, and analyse spatial data while contributing to local development goals and **national open data missions**.

LEADERSHIP

- A member of the U.S. Department of State's Young South Asian Leaders Initiative (YSALI) 2024
- Founder President of an NGO --YOU Foundation, India (2015–2021)
- Volunteer: Arcata Marsh Interpretive Center, CA, USA (2015 - 2015)

RESEARCH PUBLICATION

- Assessing Peat Surface Motion & Carbon flux in The Great Fen Area of Cambridgeshire, UK using InSAR (in collaboration with Cranfield University & University of Nottingham)   2025

EDUCATION

Data-driven approaches to hydrological science, UKCEH Summer School   2025

- trained in sourcing, analysing, modelling, and visualising hydrological and environmental data with Python libraries.

MSc Advanced GIS & Remote Sensing, Cranfield University, U.K.   2022 - 2023
Modules: Advanced GIS and Spatial Data Management, Scientific Python, Applied Earth Observation, Environmental Resource Survey, Image Processing & Analysis, Aerial Photography & Digital Photogrammetry, Web Mapping.

Group Project: Soil Sampling Techniques from an Uncrewed Aerial System with Surveyar Ltd.

Projects:
- Consultancy report analysing proposed residential infrastructure project sites in Isle of Wight, considering factors like coastal floods, land vulnerability index, road type, and greenspace.
- Conducted solar energy potential analysis in Washington, D.C., to support the Sustainable D.C. initiative.
- Mapping the Deepwater Horizon oil spill with ENVISAT ASAR.
- Led the development of a consultancy proposal for mapping flood hazards in Myanmar using Sentinel and MODIS.
- Conducted an Environmental Resource survey for Soil Organic Carbon in Dream Island, integrating ArcGIS and R.
- Crop Classification with Landsat: ERDAS Imagine to generate a Digital Crop map for Cambridgeshire

MSc Geography, Lovely Professional University, Punjab, India   2017 - 2019
CGPA: 8.46/10 *(**University Academic Honor** for standing first in order of merit)*
Dissertation: 'Flood and Drought Cycle, Climate Variability and Other Extreme Events (2019)

Bachelor in Geography, Mumbai University, India   2012 - 2016
CGPA: 6.68/7 with a Fully Funded Academic Year, at **Humboldt State University, California, USA**

CERTIFICATION
- Generative AI Mastermind by Outskill   Aug 2025
- FME (Feature Manipulation Engine) Essentials by Udemy   July 2025
- Agile Foundations – IIBA & PMI   May 2025
- AutoCAD Map 3D Essential Training   Jun 2025
- IBM Generative AI Engineering Professional Certificate   Sept 2025 - Jan 2026

Also Exploring mountains, forests, —and how AI and ML might someday navigate them better than I do