

Pankaj Parmar

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EDUCATION

- University of Sheffield, UK** 2022 - 2024
MSc. in Applied Geographic Information Systems (GIS) *Merit*
- **Thesis:** Do Geotagged Tweets Hold the Key to Predict Local Elections in the West Midlands via Sentiment Analysis? (2023); Selected in the university's best dissertation archive for its geocoding approach in data gathering and management, 2024.
 - **Relevant coursework:** GIS Dissertation, Quantitative Analysis (using R & MS Excel), Principles of GIS, Open Source GIS and Visualisation, Spatial Data Science for Social Sciences (Python), Advanced GIS Methods, Professional GIS Project.
- University of Delhi, India** 2018 - 2021
BA (Hons) in Geography *2:1 degree*
- **Related coursework:** Remote Sensing, GIS, Disaster management, Thematic cartography, Climatology, Urban Geography.

WORK EXPERIENCE

- Geospatial Specialist** 2022 - 2023
Automatic Knowledge Ltd. *Sheffield, UK*
- Handled over 380GB of geospatial datasets, including vector and raster files with multi-temporal stamps, reducing data retrieval time by 30% through MS PowerToys, GDAL, and automated processing using cmd commands.
 - Mined over 100GB of open source datasets from OSM, and other primary data sources using web APIs and data pipelines.
 - Compiled **Microsoft's released dataset for the US** with over 130 million building footprints (30GB) from GeoJSON files into state-specific GeoPackage formats, adding county codes and names, which improved data accessibility for 500+ users.
 - Maintained and developed proficiency in GIS software to facilitate efficient geospatial data handling and processing for mapping and analysis training on Map Academy courses with 11,000 enrolled students.
- Research Assistant** 2023 - 2024
Cluster Innovation Centre (CIC), University of Delhi *India (Remote)*
- Provided support to 10+ scholars and staff at mid levels, improving their technical spatial data analysis and mapping skills.
 - Designed and delivered practical classes for 6 research scholars on using ArcGIS Pro & remote sensing for their research.
 - Transformed and analysed Air quality time series data from CSV file (10 years) to shapefiles with combinations of urban datasets to predict air pollutants and their impacts on human health using machine learning algorithms and AI.
- Intermediate Mapper (Volunteer)** 2024 - Present
Missing Maps *Remote*
- Digitised satellite imagery into OpenStreetMap and mapped over 1300 building footprints, 10km+ of roads, ponds, reservoirs and 20km+ waterways across 6 countries, including Ecuador, the Philippines, and Grenada.
 - Participated in 3 live mapathons, completing 50+ tasks and requests, including contributing to the mapping of disaster-prone areas such as the Kanlaon Volcano Eruption 2024 and Hurricane Beryl 2024.

PROJECTS

- Predicting Delhi's air quality** | Research report | *Model builder, ML models, GitHub, APIs data extraction, statistics* 2024
- Collaborated with Dr Dawa and a team of 4 scholars from CIC, India on pre and post-COVID-19's impact on Delhi's PM2.5 levels using Google Earth Engine and Python, using the GEE for conducting NDVI, SAVI, BUI, NDBI, Forest classification and ArcGIS Pro for exploratory data analysis. Developed predictive models to suggest air pollution control measures.
- UK Local authority GIS data** | Geospatial data catalogue | *QGIS, GDAL, automation, SQL, GIS processing tools, QA* 2023
- Compiled repository data of more than 150GB from the Office for National Statistics and Ordnance Survey, split it by local authority, and then assembled it in folders for boundaries, buildings, greenspace, surface water, terrain and more.
- Radiotherapy Centres accessibility** | Client report | *QGIS, TravelTime, LSOA population data, transport network analysis* 2023
- Worked with Dr Alasdair Rae and played a key role in improving geospatial data creation and analysis of hospital accessibility for the Radiotherapy4life Foundation as the client; Identified more than 30 constituencies, where residents do not appear to be able to reach a radiotherapy centre within 45 minutes with network analysis results and population dataset.

SKILLS

Tools: ESRI (ArcGIS Pro, ArcGIS Online), QGIS, PowerBI, JOSM, AutoCAD, Duckdb, leafmap
Programming languages: Python, R, JavaScript, LATEX, SQL, Query Builder
Analytical tools: ArcPy, PyQGIS, GRASS, MS Excel, Pandas, Power Query, GDAL, web APIs
Writing skill: Authored a tutorial guide for extracting OSM data using the Overpass Turbo web tool.
Presentation: Presented research findings of client based project reports & academic reports to internal & external stakeholders.
Teaching: Delivered teaching support for Automatic Knowledge Ltd. on "Introduction to QGIS" & "Next Steps with QGIS" programs delivered to private and public organisations.