Ekagra Chattree

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EDUCATION

Masters in Geo-informatics (Ongoing) **2027**
Indira Gandhi National Open University *Varanasi, UP*

Bachelor of Science, (Chemistry/Physics) **June, 2024**
University of Allahabad *Prayagraj, UP*

- **Div- 1st**
- **CGPA: 6.88/10**

St. Joseph's College **July 2020**
Senior Secondary Certificate (PCM) *Prayagraj, UP*

PROJECTS

- **Urban Heat Island Analysis of Prayagraj (2026)**
  - Derived Land Surface Temperature (Landsat 9) and NDVI (Sentinel-2) across ~280 km² using Python (rasterio, geopandas, scipy) and QGIS to map thermal patterns during the 2026 North Indian heatwave
  - Applied grid-based zonal statistics and Pearson correlation analysis across 280 cells, identifying hotspots and cooling advantage in vegetated zones
- **Groundwater Depletion Study of the Indo-Gangetic Plain (2026)**
  - Processed 251 months [2002 - 2026] of NASA GRACE/GRACE-FO satellite gravity data with GLDAS Noah land-surface model corrections in Python to isolate groundwater storage trends across the IGP
  - Applied Mann-Kendall trend testing and linear regression across 558 pixels, identifying depletion rates up to −9 cm/year in Punjab-Haryana and rendered a 251-frame animated visualization using FFmpeg
- **Transit Visualization of the Vande Bharat Network in Uttar Pradesh (2026)**
  - Interpolated train positions along railway shapefiles using Indian Railways timetable data to animate scheduled movement across UP in QGIS
  - Rendered a spatiotemporal simulation of route coverage, station halts, and connectivity patterns using FFmpeg for geospatial transport analysis
- **Pedestrian Accessibility Assessment of the proposed Prayagraj Metro System (2025)**
  - Used GIS tools to analyze pedestrian accessibility around proposed metro stations
  - Generated thematic maps to support urban transport planning insights

CERTIFICATIONS

- Advanced QGIS Certification, QGIS.org (Facilitated by Spatial Thoughts) 2026
- Licensed Amateur Radio Operator, Department of Telecommunication (Government of India) 2024
- MATLAB Onramp, MathWorks®, 2024
- Wireless Communications Onramp, MathWorks®, 2024

SKILLS

- ***Programming & Software:*** *Python (rasterio, geopandas, numpy, scipy, matplotlib), QGIS (incl. Model Designer), MATLAB, Origin, Excel, FFmpeg, VS Code, Google Earth*
- ***Remote Sensing & GIS Analysis:*** *Satellite data interpretation,, Land Surface Temperature retrieval, NDVI computation, digital image processing (enhancement & classification), network analysis, zonal statistics, buffering & overlay analysis, cartographic design, GPS/GNSS systems*