Arun Kumar Bhomi

Geomatics Engineer

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Work Experience

Senior Surveyor   Jan 2025 - Current
Kathmandu Metropolitan City   Kamaladi, Kathmandu

- Led ward-level planning meetings with local representatives for Collection, Verification and Standardization of road name across multiple wards and systematically updated the digital GIS Database for KMC.
- Contributed to the development and enhancement of KMC's Web Map Portal, integrating multiple spatial layers including cadastral boundaries, GLD road, land use zoning, and other municipal datasets.

Data Associate/Geomatics Engineer   Aug 2024 - Jan 2025
Genesis Consultancy Pvt Ltd.   Lalitpur, Kathmandu

- Conducted spatial and non-spatial data analysis for the WASH project, supporting evidence-based planning and infrastructure development.
- Developed an interactive WebGIS portal featuring building footprints, roads, and municipal boundaries using PHP and SQL for spatial database management.

Geospatial Data Analyst Intern   March-May 2024
Kathmandu Living Labs (KLL)   Chundevi, Kathmandu

- Worked on Cartography Section. Designed Dark Map Style for "Baato".
- UAV Survey to build 3D Model of Kathmandu University Area.
- GIS Analysis to estimate the height of buildings.

EDUCATION

Kathmandu University   2019–2024
Bachelor in Geomatics Engineering (BE)   Dhulikhel, Nepal

- CGPA: 3.86/4.00

St. Xavier's College   2017–2019
School Leaving Certificate (SLC)   Maitighar, Nepal

- CGPA: 3.48/4.00

Bagiswori Higher Secondary School   2017
Secondary Education Examination (SEE)   Bhaktapur, Nepal

- CGPA: 3.75/4.00

Experience

2024 International GeoInformatics Summer School (IGSS) June, 2024
Participant (Selected) Wuhan University, China

- Awarded with Scholarship of 8000 CNY.
- Participated in IGSS-24 organized by LIESMARS (State Key Lab of Information Engineering in Surveying, Mapping and Remote Sensing), Wuhan University.

CLImbing for CLImate GEOspatial School (CLIGEOS-2024). April, 2024
Participant (Selected) Annapurna-3, Lumle, Nepal

- Participated in CLIGEOS-24 organized by ISPRS, LJ University, Universita Degli Studi Di Udine and CSSGS.

Workshop and Mapathon on Map Roads: Make your Way. Nov, 2023
Instructor (Trainer) Dhulikhel, Nepal

- Trained around 50 people about basic OSM.

Survey Camp under NCP Student Exchange Program. Nov, 2023
Participant (Selected) Dhulikhel, Nepal

- 7 Day Survey Camp with Australian Student of University of Southern Queensland.

Workshop of Advanced Training of OSM "Training of Trainee". June, 2022
Participant (Selected) Dhulikhel, Nepal

- 2 Days Residential Workshop on Training of OSM.

Leadership Experience

Geomatics Engineering Society (GES). 2022-23
[Executive Member] Dhulikhel, Nepal

Rotaract Club of Rudramati-Babarmahal, Kathmandu. 2021-22
[Treasurer] Baneshwor, Kathmandu

St. Xavier's Social Service Club. 2018-19
[Treasurer] Maitighar, Kathmandu

Publications

- **Assessing Coral Reef Changes through Supervised Classification and correlating it with SST and Chlorophyll-A: A Remote Sensing Approach.** May 2024
  - Carried out project in Google Earth Engine. Used Supervised Image Classification and compared three machine learning algorithm: Random Forest (RF), Classification and Regression Task (CART) and Support Vector Machine (SVM). Developed the prediction model of Sea Surface Temperature using ARIMA Model.

- Paper Published in 9th FIG (International Federation of Surveyors) Regional Conference 2024 (Nov, 2024).
  ISBN 978-87-93914-18-6. ISSN : 2308-3433. [Link to Paper](#)

- **Assessing the Impact of Urban Expansion on Forest Cover using LULC Maps, NDVI, and NDBI: A Case Study of Kathmandu District.** — Nov 2023
  - Classified the LANDSAT-8 Images using Supervised Image Classification. Calculated Users, Producers, Overall Accuracy and Kappa Coefficient. Finally, Interpreted all the resulted data and prepared the time-series analysis and map.
  - Paper Published in an annual journal of Survey Department, JOURNAL ON GEOINFORMATIS, Number:23 (May/June, 2024). ISSN : 2717 - 5022. [Link to Paper](#)

- **UAV Images for Agriculture Land Parcel Delineation through Edge Detection Algorithm: A Case Study of Hilly and Terai Regions.** — Dec 2022
  - Utilized GIS Methodologies in-built algorithm: Edge Datection Algorithm to compare the parcel delineation between Hilly and Terai Regions.
  - Paper Published in an annual journal of Survey Department, JOURNAL ON GEOINFORMATIS, Number:22 (May/June, 2023). ISSN : 2717 - 5022. [Link to Paper](#)

PROJECTS

- **Suitability Analysis for the appropriate Dumpsite on Bhaktapur District using MCDA analysis in GIS.** — May 2022
  - Applied Multi-Criteria Decision Analysis (MCDA) in GIS Software followed by Analytic Hierarchy Process (AHP) Method for locating the suitable place considering different factors.

AWARDS AND ACHIEVEMENTS

- Scholarship Awarded for Participating in 2024-International GeoInformatics Summer School organized by LIESMARS Wuhan University, China. — June, 2024
- 35% Government(LMTC) Scholarship in Undergraduate Program. — 2019-Current
- Survey Camp under NCP Student Exchange Program, University of Southern Queensland. — Nov, 2023
- Most Creative Idea in the Hackathon for Field Mapping Task-Splitting Algorithm. — May 2023
  - Hackathon for Field Mapping Task-Splitting Algorithm organized by NAXA, KLL, NGES, HOT, Open Mapping AP-HUB.
- Academic Merit Scholarship, Kathmandu University. — 2022
- International Geoinformatics Summer School, Wuhan University. — Aug, 2022
- 2 Days workshop of Advanced Training of OSM "Training of Trainee". — June, 2022
- Open Street Map and Humanitarian mapping by United Nations Global Centre. — April, 2022
- Webinar envisioning spatial analysis through SuperMap: A new era of Geospatial Science — May, 2021
- Best Student Award with Fr. Charles A. Law Certificate, St. Xavier's College. — March,2019
  - The Fr. Charles A. Law, S.J. Memorial Award for Excellence in Social and Environmental Responsibility.

Skills

- **Surveying:** GIS, Remote Sensing, Aerial Survey, DGPS Survey, QGIS, Spatial Database Management System (SDBMS), Web-GIS
- **Programming:** Python, JAVA, PHP
- **Typesetting:** Latex, Nepali Unicode

Languages

- **English:** Fluent
- **Nepali:** Native
- **Newari:** Fluent
- **Hindi:** Conversational