

Supath Dhital

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Summary

Self-motivated, punctual, passionate learner and Geospatial Data enthusiast from Nepal having an experience of working with spatial data. Critical thinker and research attitude attempting to learn and progress in the subject of earth science.

Education

Pashchimanchal Campus (W.R.C) Lamachaur-16, Pokhara Nepal

Bachelor of **Geomatics Engineering** [Aggregate Percentage: 72.58%] 2018-2023

- Relevant Coursework on GIS, Geodesy, Geoinformatics, Surveying, Remote Sensing, Cartography, Applications of GIS with Python, Photogrammetry, C, C++
- Several Satellite Image analysis work as well as Cartographic Practices

REHDON College Samakhusi, Kathmandu

Computer Science [GPA: 3.71/4] 2016-2018

- Relevant Coursework on Physics, Chemistry, Mathematics and Computer Science

Experience

Omdena (Collaborative Projects) Palo Alto California, USA

Junior ML Engineer (Remote) Jan - April 2023

- Predicting the Nitrogen flow from the farm used as Nitrogen fertilizer to the Nitrous Oxide: One of the top contributors to greenhouse gas using Deep Learning on Remote Sensing data and Validating using Ground truth data following IPCC standard
- Accomplished flood prediction in Belgrade, Serbia using Deep Learning from past meteorological water level data of Danube and Sava River and precipitation data
- Done Dark Corridors mapping for Bats in Brussel, Belgium using Computer Vision and Remote Sensing

Humanitarian OpenStreetMap Washington DC, USA

Data Quality Intern (Remote) Oct 2022 - Jan 2023

- Done mapping activities of several disaster-prone areas as well as digitized geographic features to produce the open 3D geodata which can be used to Governmental bodies or NGOs for post analysis of several natural disasters and so on.
- Several Web Maps and thematic Maps practices for Visualizing the Open Geo Data

CLARRISA Kathmandu, Nepal

Mapping the most vulnerable places in Kathmandu Feb – Apr 2022

CLARISSA aims to break the supply chain of child labor in Nepal and Bangladesh. In this project we mapped the most vulnerable places about the child labor among Kathmandu city to prepare open data for the preparedness to overcome this problem and push society towards sustainable development.

Kathmandu Living Labs Kathmandu, Nepal

Mapper Jul-Oct 2022

Validation/Mapping Road network of 21 districts of Khyber Pakhtunkhwa, Pakistan which was supported by **World Bank**.

Participatory Training/Mapping Palungtar Municipality, Gorkha

Conduct a Mapathon Jan – Feb 2022

During the 2015 A.D earthquake in Nepal, Gorkha faces the most physical and human loss. At that time due to lack of sufficient open geodata, emergency preparedness was also delayed so focusing that problem, we conduct the mapathon where students are trained to digitize the ground features and for cross validation, on-site participatory approach is adopted and using these open geodata we prepare thematic maps conveying the awareness message.

Pashchimanchal Campus (On campus Projects) Lamachaur -16, Pokhara Nepal

1. Predicting weather patterns in Kaski District Jun 2022 - Feb 2023
On behalf of the final year project (thesis) of undergraduate “Prediction of precipitation and temperature from past meteorological data: A case study of Kaski District” was carried out. Full Report: <https://doi.org/10.31223/X5CH4H>
2. Done 21 days Survey camp of GPS survey, hydropower and cadastral surveying Jul – Aug 2022

- Integration of Hand GPS data and special landmark data extracted from crowd sourcing platform, OpenStreetMap is extracted and making thematic map showing the routes using map making software for the ease and accessible for stuck tourist inside Pokhara.
 - On hydropower and cadastral surveying, accomplished the small hydropower project field survey and for parcel detection and mapping using GIS for cadastral surveying. Full Report: <https://doi.org/10.13140/RG.2.2.26981.06888>
3. Drone Data Processing Jan 2023
 Done Drone data abstraction, processing, digitizing of whole Pashchimanchal Campus

Activities & Extracurriculars

Participatory Mapping, as a Trainer/ Mapping and Visualizing thematic maps Jan 2022 - Feb 2022

- Done Mapping work by training the volunteers using OSM and using extracted geodata preparing the thematic maps to convey the message regarding awareness from disasters other emergency periods

Volunteering, Member 2021-2022

- Accomplished as a member of 7th Executive Committee of Geomatics Engineering Students' Society of Nepal (GESAN): Leading organization to provide training, webinars and so many extracurricular activities related to Earth Data, Geoinformatics

Research Papers

1. **Dhital, S.,** Lamsal, K., Shrestha, S. and Bhurtyal, U., 2023. Forecasting Weather using Deep Learning from the Meteorological Stations Data: A Study of Different Meteorological Stations in Kaski District, Nepal. doi: <https://doi.org/10.31223/X5CH4H>
2. **Dhital, S.** and Lamsal, K., Orthophoto Generation Using UAV: A Case Study of Pashchimanchal Campus, Pokhara. doi: <https://doi.org/10.13140/RG.2.2.35430.29767/1>
3. **Dhital, S.,** UAV technology, its application, principle and workflow to disaster monitoring and emergency response. doi: <https://doi.org/10.13140/RG.2.2.24745.88161/1>

Certifications

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| Crop Mapping using Synthetic Aperture Radar (SAR) and Optical Remote Sensing , ARSET | 2023 |
| Disaster Assessment using Synthetic Aperture Radar (SAR) , ARSET | 2023 |
| Fundamental of Machine Learning for Earth Science , ARSET | 2023 |
| Machine Learning and Deep Learning Specialization , Coursera | 2023 |
| Image processing and Data Visualization with python, seaborn and Xarray , DataCamp | 2022 |
| Spatial Data Science: The New Frontier in Analytics , ESRI | 2022 |
| Landslide Risk Modeling using Satellite Imagery , The Geohazards Research Seminar, Medellín Colombia with ITC | 2022 |
| Geoinformatics Summer School , State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS) at Wuhan University | 2022 |
| Training/Workshop on DGPS and Terrestrial LiDAR Scanner , Center for Space Science and Geomatics Studies (CSSGS) | 2022 |
| Application of Geographic Information System (GIS) Application in Hydrology , SuperMap | 2021 |
| WebGIS , Geomatics Engineering Students' Society of Nepal (GESAN) | 2021 |

Achievements and Awards

1. Selected on **full Scholarship** for undergrad in **Geomatics Engineering** provided by **Nepal Government**.
2. Got **pro mapper** title by Missing Maps.

Skills & Interests

Languages: Native- Nepali, Fluent - English, Fluent- Hindi

Programming, Tools and Environment: Python, C, C++, PostGIS, GDAL, Keras, TensorFlow, torchgeo, geopandas, Computer Vision, Google Earth Engine (GEE), JavaScript, Git, MATLAB, Matplotlib, Xarray

Softwares: QGIS, ArcMap, ENVI, Pix4DMapper, SNAP, Global Mapper, Leica Infinity, Disaster Ninja, HEC-RAS, JOSM, iDEditor, KoboToolbox, OSMTracker

Skills: Team Work, Communication, Tutor, Data Collection/ Visualization, Presentation, Critical Thinking, Knowledge Sharing, Geo data quality control tools (OSMcha, OSMose, Keep Right etc.)