Shidharth Routh

Male, 27 yrs (as of 08th January 2022)

Block-124/III/8, Unit-4,
South Eastern Railway Colony,
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Technical Skills

- ArcMap
- ERDAS Imagine
- MATLAB
- Python
- Basic Web Development (HTML and CSS)
- Idrisi Selva
- Fragstats

Experience and Project

JULY 2019 - OCTOBER 2020

Modelling Urban Sprawl Dynamics of Howrah-Kolkata Urban Agglomeration by Semi-automated Impervious Feature Extraction Techniques using Multi-sensor Remotely Sensed Data, Haldia Institute of Technology, Haldia - *Junior Research Fellow under SERB-DST*

- ERDAS Imagine and MATLAB were used to perform satellite image classification and image recoding.
- ArcMap (Extension of ArcGIS) was used in accuracy assessment, classified image preparation for further mathematical analysis and layout generation.
- Idrisi Selva was used for land-use prediction analysis.
- Fragstats was used for calculating land-use metrices.
- Basic Python programming and Matlab were used for plot generation.

JULY 2018 - APRIL 2019

Comparative Spatio-Temporal analysis of Satellite-derived (GSMaP) Rainfall and WRF Forecasted Rainfall on Hydrological Variability over India, Space Applications Centre, Ahmedabad - *Intern*

- MATLAB was used for data analysis, bias correction methods implementation, and applying statistics for comparative studies between the aforementioned datasets used.
- Google Earth Engine Code Editor was used for inundation mapping.
- ArcMap was used for layout generation.

JULY 2016 - FEBRUARY 2017

3D terrain Modeling of College (Haldia Institute of Technology) Campus using Remote Sensing and GIS based approach, Haldia Institute of Technology, Haldia - *Student*

- Google Earth was used to collect satellite images of the college campus.
- ArcMap was used extensively for georeferencing of images, modeling of the college campus and terrain, exporting files for visualization in Google Earth and generating the final video of the modeled campus.
- Google sketchup was used for cosmetic visualization of the college campus.

JULY 2016 - AUGUST 2016

Analysis and Design of Steel Cable Gallery supporting towers, R.C. pedestal and tie beams, TRISHUL Engineering Solutions (P) Ltd., Kolkata - *Intern*

- STAAD Pro was used for analysis and design.
- Microsoft Excel was used for design calculations.

Education

JULY 2017 - JUNE 2019

Indian Institute of Engineering Science and Technology, Shibpur - *M-Tech in Geoinformatics*

Have secured an overall percentage of 84.22% .

AUGUST 2013 - JUNE 2017

Haldia Institute of Technology, Haldia - *B-Tech in Civil Engineering*

Have secured an overall DGPA of 8.65 (79.00%) under the course certified by the Maulana Abul Kalam Azad University of Technology (MAKAUT).

APRIL 2012 - APRIL 2013

Kendriya Vidyalaya Garden Reach, Garden reach - *AISSCE*

Have secured an overall percentage of 75.67% in 12th standard under the course certified by the Central Board of Secondary Education (CBSE).

APRIL 2010 - APRIL 2011

Kendriya Vidyalaya Garden Reach, Garden reach - *AISSE*

Have secured an overall CGPA of 9.8 (93.10%) in 10th standard under the course certified by the Central Board of Secondary Education (CBSE).

Publications

- Mitra, S. S., Kumar, A., Santra, A., & Routh, S. (2021). Comparative Evaluation of Predicted Hydrologic Response Under Two Extremities of Sustainability Using Transformed Landuse-Landcover and CORDEX-Based Climatic Scenarios. *Climate Impacts on Sustainable Natural Resource Management*, 183–218. https://doi.org/10.1002/9781119793403.ch10

- Mitra, S. S., Santra, A., Kumar, A., & Routh, S. (2021). Long-Term Drought Assessment and Prediction Driven by CORDEX-RCM. *Mapping, Monitoring, and Modeling Land and Water Resources*, 243–274. https://doi.org/10.1201/9781003181293-17

- Santra Mitra, S., Kumar, A., Santra, A., Mitra, D., & Routh, S. (2021). Hydrological modeling of catchment specific runoff-response to variable land-use/climatic conditions and trend-based hypothetical scenario generation: a study on a large river basin in Eastern India. *Journal of the Indian Society of Remote Sensing*, *49*(8), 1895–1914. https://doi.org/10.1007/s12524-021-01348-z

- Santra, A., Mitra, S. S., Sinha, S., Routh, S., & Kumar, A. (2020). Identification of Impervious Built-Up Surface Features Using ResourceSat-2 LISS-III-Based Novel Optical Built-Up Index. *Remote Sensing and GIScience*, 113–126. https://doi.org/10.1007/978-3-030-55092-9_7

- Santra, A., Mitra, S. S., Sinha, S., & Routh, S. (2020). Performance testing of selected spectral indices in automated extraction of impervious built-up surface features using Resourcesat LISS-III image. *Arabian Journal of Geosciences*, *13*(22). https://doi.org/10.1007/s12517-020-06183-z

Extra Curricular Activities

- RAJYA PURASKAR awardee in THE BHARAT SCOUTS & GUIDES in 2011.
- Completion of INTERNATIONAL YOUNG LEADER TRAINING at YUBA BHARATI KRIRANGAN in 2009.
- Did an off-campus outreach certificate programme on BASICS OF REMOTE SENSING, GEOGRAPHICAL INFORMATION SYSTEM AND GLOBAL NAVIGATION SATELLITE SYSTEM in 2017.