SWADHINA KOLEY

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CAREER OBJECTIVE

A growing research professional with good conceptual knowledge of remote sensing and geospatial science, seeking suitable position in academia. Have more than five years of experience in intensive research field, and geospatial data handling, with special reference to time series multispectral, SAR, and climatic datasets.

PROFESSIONAL BACKGROUND

1. **Junior Research Fellow,** **December 2015 – July 2017**
   Jharkhand Space Application Center, Ranchi, India
   - Job responsilibities included handling multi-temporal high-resolution satellite data to map the cropping pattern of Jharkhand.

EDUCATIONAL BACKGROUND

1. **Doctorate of Philosophy** **July 2017 – Present**
   Birla Institute of Technology, Ranchi, India
   - Understanding the cropping dynamics at regional level.
   - Analyzing the crop phenology, using remote sensing data.
   - Land use land cover change analysis.
   - Monitoring the long term climatic impact on the cropping system.
   - Water use estimation by different crops.
   - Measuring soi moisture using multispectral data.
   - Studying the environmental hazards affecting the crop growth.
   - Multi-criteria decision modeling.
   - Geostatistical analysis.

2. **Master of Science (Remote Sensing & GIS)** **September 2013 - June 2015**
   Vidyasagar University
   - Secured 84.42% marks

3. **Bachelor of Science (Physics Hons.)** **August 2009 – July 2012**
   University of Calcutta
   - Secured 57.25% marks

TECHNICAL EXPERTISE

- Handling coarse, medium, and fine resolution optical and SAR imagery.
- Spatial analysis with time series satellite data.
- Downscaling of coarse resolution data to finer resolution.
- Image interpretation and GIS data modeling.
- Software expertise includes ERDAS, ENVI, ArcGIS, QGIS, Google Earth Engine, Microsoft Office tools.

PUBLICATION DETAILS

- **Journal Publications**

1. **Swadhina Koley** and Jeganathan C. (2021). Sentinel 1 and Sentinel 2 for Cropland Mapping with Special Emphasis on the usability of Textural and Vegetation Indices. Advances in Space Research (Elsevier), 69 (4), pp. 1768-1785. (Oct, 2021).
2. **Swadhina Koley** and Jeganathan C. (2020). Estimation and evaluation of high spatial resolution surface soil moisture using multi-sensor multi-resolution approach. Geoderma - The Global Journal of Soil Science (Elsevier), 378, 114618. (Nov, 2020).

- **Conference Proceedings**

1. **Koley, S.**, Jeganathan, C., 2021. Evaluating the Climatic and Socio-Economic Influences on the Agricultural Drought Vulnerability in Jharkhand, in: National Symposium on Advances in Remote Sensing (NS-ARS21), 9-11 December, 2021, Ranchi, India, pp. 18-19. ***(Best Paper Award)***
2. **Koley, S.**, Jeganathan, C., 2020. Estimation of the Green and Blue Water Footprint of Kharif Rice using Remote Sensing Techniques: A Case Study of Ranchi, in: IEEE International India Geoscience and Remote Sensing Symposium. 2-4 December 2020, Ahmedabad, India, pp. 1-4.
3. **Koley, S.**, Jeganathan, C., 2020. Assessing the impact of climate change on the vegetation health and predicting future drought vulnerability, in: ISRS-ISG National Symposium. 18-19 December 2020, Ahmedabad, India, p. 24.
4. **Swadhina Koley** and Jeganathan, C. (2019). Vegetation Health Index as an indicator of drought: A Case study of Khunti District over two contrasting monsoon rainfall period. International Conference: "3rd World Clean Environment Summit 2019" held on 19 to 21st August 2019 at St. Xavier's College, Ranchi, Jharkhand. ***(Best Paper Award)***.
5. **Swadhina Koley** and Jeganathan, C. (2018). Geospatial technology: the emerging global trend towards the new horizon of sustainable agriculture. National Conference for Education in Science, Mathematics & Technology, Organised by Taurian World School, Ranchi, 11th August 2018. ***(2nd Best Paper Award)***.

- **Reports**

1. Sharma et al. (2016). Crop Acreage Estimation in Jharkhand using Satellite Remote Sensing Data, Year 2015-16. Published by Jharkhand Space Application Centre, Govt. of Jharkhand, as a part of the Jharkhand Crop Information System (JCIS) Project, a state level project executed over the state of Jharkhand to monitor the crop acreage in different season.

- **Posters**

1. Bara, A., Singh, B., **Koley, S.**, & Jeganathan, C. (2019). Land Suitability Modelling for Agriculture Expansion using Geospatial Technology: A Case Study of Ranchi District. 3rd World Clean Environment Summit. Ranchi.
2. **Swadhina Koley** & Jeganathan C. (2022). Estimation of surface soil moisture using high resolution satellite data. *Presented at:* Science and Technology Festival, Birla Institute of Technology, Ranchi, February 22-28, 2022.
3. **Swadhina Koley** & Jeganathan C. (2022). Modeling agriculture drought vulnerability due to climate and socio-economic changes. *Presented at:* Science and Technology Festival, Birla Institute of Technology, Ranchi, February 22-28, 2022.

AWARDS AND ACHIEVEMENTS

- GATE 2022 in Geomatics Engineering (AIR – 73, Score 609)
- GATE 2015 in Geology & Geophysics (Score – 185)
- DST AWSAR Award in 2020 (Best 100 stories)
- Best paper award in NS-ARS 2021
- Best paper award in 3rd World Clean Environment Summit, 2019
- 2nd Best paper award in NCESMT, 2018
- Gold medalist in Post Graduation

PERSONAL DETAILS

- Date of Birth : 15th August, 1991
- Gender : Female
- Marital Status : Unmarried
- Nationality : Indian
- Language : Bengali (Native), English (Fluent), Hindi (Working efficiency)
- Hobbies : Writing, Travelling, Exploring new cultures, Learning anything new
- ORCID : 0000-0002-0762-1649