Present Address: C-104, Vikram Sarabhai Residential Complex (VSRC)
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NARAYAN KAYET,   Senior Project Officer (SPO) at IIT Kharagpur

CAREER OBJECTIVE

To become a successful professional in the field of Remote Sensing & GIS and to work in an innovative, competitive world and research & development oriented works which will help me to explore myself fully and realize my potential. I would also prefer to undertake challenging task related to Remote sensing& GIS.

EDUCATION

Ph.D. (Submitted) from Vidyasagar University, Midnapore , West Bengal, India (2020) (collaboration with Indian Institute of Technology, Kharagpur)

Topic: Forest Health monitoring using Hyperion Data for Geo-Environmental Planning of Iron Ore mining Belt, Saranda Forest, Jharkhand, India

Supervisors: Dr. Abhisek Chakrabarty (Vidyasagar University) and Prof. Khanindra Pathak (Indian Institute of Technology, Kharagpur).

Masters of Science (M.Sc.) in Remote sensing and GIS from Vidyasagar University Midnapore , West Bengal, India (2014)

Topic: Remote Sensing & GIS Based Assessment of Siltation Load on Drainage Network due to Soil Erosion from Mining Areas

Supervisor: Prof. Khanindra Pathak (Indian Institute of Technology, Kharagpur)

Graduated in Geography (Hon) from Vidyasagar University Midnapore , West Bengal, India (2012)

RESEARCH INTERESTS

My research interests are the applications of hyperspectral remote sensing and geospatial technologies to study **forest health assessment and monitoring, foliar dust estimation & mapping, deforestation monitoring, forest fire mapping, tree species classification, tree diversity estimation, assessment and prediction of forest health risk, and forest and environmental management in mining sites**. Also, mining subsidence, slope stability, soil erosion modeling, LULC modeling land surface temperature modeling, morphometric & terrain analysis.

PUBLICATIONS

Journals:

1. **Kayet, N**., Pathak, K., Chakrabarty, A., Kumar, S., Chowdary, V. M. and Singh, C. P (**Accepted 2020**) 'Assessment of mining activities in hilltop mining areas on tree species and diversity using Landsat and Hyperion data' . **Environmental Science and Pollution Research (Springer)** Scopus, Google scholar, UGC-Group-A **, SCI**, **Impact Factor-3.05**.

2. **Kayet, N**., Pathak, K., Chakrabarty, A., Kumar, S., Chowdary, V. M., Singh, C. P., & Basu, S. (**2019**) 'Forest Health Assessment for Geo-Environmental Planning and Management in hilltop mining areas using Hyperion and Landsat data'. **Ecological Indicators (Elsevier)** Volume 106, November (2019, 105471, Google scholar, Scopus, UGC-Group-A, **SCI**, **Impact Factor -4.80**.

3. **Kayet, N**., Pathak, K., Chakrabarty, A., Kumar, S., Chowdary, V. M., Singh, C. P. & Basumatary, S.

(**2019**). 'Assessment of foliar dust using Hyperion and Landsat satellite imagery for mine environmental monitoring in an open cast iron ore mining areas'. **Journal of Cleaner Production (Elsevier)** Volume 218, 1 May 2019, Pages 993-1006, Google scholar, Scopus, UGC-Group-A, **SCI**, **Impact Factor-7.24**.

4.   Sahoo, S., Dhar, A., **Kayet, N**., & Kar, A. (**2019**). Identification of water-stressed area based on the interrelationship of soil moisture and seasonal rice cultivation. **Paddy and Water Environment** (**Springer**), Google scholar, Scopus, UGC-Group-A, **SCI, Impact Factor -1. 39.**

5.   **Kayet, N**., Pathak, K., Chakrabarty, A., & Sahoo, S. (**2018**). Evaluation of soil loss estimation using RUSLE model and SCS-CN method in hilltop mining areas. **International Soil and Water Conservation Research (Elsevier)**, 6(1), 31-42, Google scholar, Scopus, UGC-Group-A**, SCI, , Impact Factor -3. 77.**

6.   **Kayet, N**., Pathak, K., Chakrabarty, A., & Sahoo, S. (**2018**). Mapping the distribution of iron ore minerals and spatial correlation with environmental variables in hilltop mining areas. **Environmental earth sciences (Springer)**, 77(8), 308, Google scholar, Scopus, UGC-Group-A, **SCI, Impact Factor -2.18**.

7.   **Kayet, N**., Pathak, K., Chakrabarty, A., &Sahoo, S. (**2018**) "Comparative Analysis of Multi-Criteria Probabilistic Frequency Ratio and Analytic Hierarchy Process for Forest Fire Risk Zone Mapping" **Journal of Forest Research (springer)**. Volume 30, 2018, page 1-15, Google scholar, Scopus, UGC-Group-A, **SCI, Impact Factor 1. 68**

8.   **Kayet, N**., Chakrabarty, A., Pathak, K., Sahoo, S., Mandal, S. P., Fatema, S., & Das, T. (**2018**). Spatiotemporal LULC change impacts on groundwater table in Jhargram, West Bengal, India. Sustainable **Water Resources Management (Springer)**, 1-12, Google scholar, UGC-Group-B.

9.   Sahoo, S., Dhar, A., **Kayet, N**., & Kar, A. (**2017**). Detecting water stress scenario by land use/land cover changes in an agricultural command area. **Spatial Information Research**, (**Springer**) 25(1), 11-21, Google scholar, UGC-Group-B. .

10.   **Kayet, N**., Pathak, K., Chakrabarty, A., & Sahoo, S. (**2016**). Spatial impact of land use/land cover change on surface temperature distribution in Saranda Forest, Jharkhand. **Modeling Earth Systems and Environment (Springer)**, 2(3), 1-10, Google scholar, UGC-Group-B.

11.   **Kayet, N**., Pathak, K., Chakrabarty, A., & Sahoo, S. (**2016**). Urban heat island explored by co-relationship between land surface temperature vs multiple vegetation indices. **Spatial Information Research (Springer)**, 24(5), 515-529 Google scholars, UGC-Group-B.

12.   **Kayet, N,** K. Pathak (**2015**) "Remote Sensing and GIS Based Land use/Land cover Change Detection Mapping in Saranda Forest, Jharkhand, India" **International Research Journal of Earth Sciences** (IJES)Vol. 3(10), 1-7 Google scholar, UGC-Group-C.

Conferences:

1.   **Kayet, N**., Pathak, K., Chakrabarty, A., & Sahoo, S. (**2017**) Hyperspectral Image Analysis for Iron Mineral Exploration and Spectral Unmixing Study in Kiriburu and Meghahataburu Mining Areas, West Singbhum, Jharkhand. **38th Asian Conference on Remote Sensing** (**ACRS2017**). Google scholar, Scopus.

2.   **Kayet, N**, A. Chakrabarty (**2016**) "Hyperspectral Image processing for Forest types Mapping and forest health monitoring: A case study in the buffer zones of iron mining belts of Saranda forest, Jharkhand, India "Journal of **GeoPython 2016**(**Switzerland**), Volume 1, (1)11,-20. **Google scholar.**

3.   S Mandal, **Kayet, N**, Chakrabarty, A (**2016**) "Morphometric analysis of bhagirathi river in murshidabad district, &west Bengal: using geospatial and statistical techniques" **Central Ground Water Authority & Central Ground Water Board** Eastern Region, Kolkata. **Google**

scholar.

4. **Kayet, N**., & Pathak, (**2015**) Remote Sensing Based Land Surface Temperature (LST) Mapping in Saranda Forest, Jharkhand Using Landsat-7 TM/ETM+ Data", (**ISPRS 2015**), **India Technical Commission VIII Mid-Term Symposium** ID 444.

Book Chapter:

1. **Kayet, N**, (**2020**) Forest Health Monitoring using Hyperspectral Remote Sensing Techniques ,Spatial Modeling in Forest Resources Management(**Springer**),

2. **Kayet, N, (2020)**   Forest Fire Risk Assessment for Effective Geo Environmental Planning and Management using Geospatial Techniques, Spatial Modeling and Assessment of Environmental Contaminants: Risk Assessment and Remediation (Springer)

3. Mhaske, S., Kapoor, I., Pathak, K., & **Kayet, N (2020)** Slope Stability Analysis of the Overburden Dump of Meghahatuburu Iron Ore Mines in Singhbhum Region of India **(Springer**) Proceedings of the International Field Exploration and Development Conference

Under review:

1. **Kayet, N**., Pathak, K., Chakrabarty, A., Kumar, S., Chowdary, V. M. and Singh, C. P (**2020**) 'Deforestation Susceptibility Assessment and Prediction for Effective Geo-Environmental Planning and Management in Saranda Forest, India. **Total science environment (Elsevier)** (Under review from June 15, 2020).

2. **Kayet, N**., Pathak, K., Chakrabarty, A., Kumar, S., Chowdary, V. M. and Singh, C. P (**2020**) 'Assessment and prediction of forest health risk (FHR) for effective planning and management for mining stressed forest area'. **Geocarto international (Taylor & Francis)** (Under review from May 18, 2020).

PROJECT EXPERIENCES

1. Worked as Project Assistant (PA) in Steel Authority of India Limited (**SAIL**) sponsored project, Department of Mining Engineering, **Indian Institute of Technology, Kharagpur** June 2014 to May 2016.

Supervisor: Professor, K. Pathak, Department of Mining Engineering, Indian Institute of Technology, Kharagpur 721302.W.B

Topic: "Preparation of comprehensive CAT plan for the Saranda forest area fed by Karo and Koina river system with specific measures and cost structure for implementation" (TCSF)

2. Worked as Project Assistant (PA) in Central Water Commission (**CWC**) sponsored project, School of Water Resources, **Indian Institute of Technology, Kharagpur** June 2016 to March 2018.

Supervisor: Professor, Dhrubajyoti Sen, Department of Civil Engineering, Indian Institute of Technology, Kharagpur 721302.W.B

Topic: Morphological Studies of Rivers Mahanadi, Mahananda and Hooghly (RMAH)"

3. Worked as Senior project officer (SPO) in Indian Space Research Organization (**ISRO**) sponsored project, Department of Mining Engineering, **Indian Institute of Technology, Kharagpur** April 2018 to till date.

Supervisor: Professor, K. Pathak, Department of Mining Engineering, Indian Institute of Technology, Kharagpur 721302.W.B

Topic: "Development of forest health monitoring model based on Hyperion Data for Geo-

Environmental Impact management in the Iron Ore Mining Belts of Saranda forest, Jharkhand (FJR)"

- **Guest teacher**, periods: Oct 2015- to till date

  Organization: Department of Remote Sensing and GIS, Vidyasagar University

  Course: Hyperspectral, Multispectral, Remote sensing, Digital Image Processing, and LIDAR, Fundamentals of RS and GIS classes for M.sc degree students.

- **Partial class in remote sensing and GIS ,** periods: Oct 2015- to till date

  Organization: Department of Mining Engineering, Indian Institute of Technology, Kharagpur 721302.W.B

  Course: Hyperspectral, Multispectral, Remote sensing, Digital Image Processing, and LIDAR, Fundamentals of RS and GIS classes for B. tech and M. tech degree students.

- **Short term course class,** periods: Oct 2015- to till date

  Organization: Department of Mining Engineering, Indian Institute of Technology, Kharagpur 721302.W.B

  Course: Remote sing application on surface mining, Conveyor belt selection, Mineral exportation, Mine closure planning, Mining subsidence, Slope stability

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Oral Presentation:

1. Hyperspectral Image Analysis for Iron Mineral Exploration and Spectral Unmixing Study in Kiriburu and Meghahataburu Mining Areas, West Singbhum, Jharkhand. 38th Asian Conference on Remote Sensing (**ACRS2017**), International conference on 23-27 October 2017 ant New Delhi, India.

2. Hyperspectral Imaging Techniques for Iron minerals Mapping in hilltop mining area, (**GEIM-2017**) "Geoinformatics for Environmental Issues and Management", Dept. of Remote Sensing and GIS, Vidyasagar University – Midnapore in collaboration with ISRS, Kolkata Chapter.

3. Morphometric analysis of bhagirathi river in murshidabad district, & west Bengal: using geospatial and statistical techniques (**CWC2017**)" Central Ground Water Authority & Central Ground Water Board Eastern Region, Kolkata.

4. Remote Sensing Based Land Surface Temperature (LST) Mapping in Saranda Forest, Jharkhand Using Landsat-7 TM/ETM+ Data", (**ISPRS 2015**), India Technical Commission VIII Mid-Term Symposium ID 444.

Training :

1. One week International training on Earth observation data for forest and agriculture carbon modeling (**2019**) organized by **Indian Institute of Technology Kharagpur**.

2. Two weeks training on Hyperspectral remote sensing applications (**2018**) organized by National Remote sensing center, **ISRO**, Hyderabad.

Workshop Attended :

1. One day workshop under ISRO Outreach Programme for Eastern Region (**2018**) organized

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by **RRSC East**, **NRSC, ISRO,Kolkata**.

2. One day workshop on Geoinformatics for Environmental issued and management (**2018**) organized by Remote sensing and GIS Dept. , **Vidyasagar University** .

3. Two day workshop on radar remote sensing in mining field (**2018**) organized by **Indian Institute of Technology Kharagpur.**

4. Two day workshop on Geoinformatics for Environmental issued and management (**2017**) organized by Remote sensing and GIS Dept. , **Vidyasagar University**.

TECHNICAL SKIL | Handling Erdas Imagine, Arc GIS, ENVI, PCI Geomantic, TNT maps, Map info, Global mapper, Q G.I.S ,Origin, SPSS, Geostudio, Google Earth engine , R, Python, Math lab(Basic), Adobe Photoshop softwares

INSTRUMENTAL SKILL | Spectroradiometer, Particle Measuring, GPS, DGPS, Dumpy level, Prismatic compass, Total Station, Stereoscopes.

DEVELOPMENTAL SKILL

Project writing for receiving research grant and project report preparation.

Laboratory management and handling detail software and data procurement procedure.

Working experience in organizing short term courses.

Knowledge in Preparation of Hand on Exercise of Image processing and GIS software.

PERSONAL INFORMATION

- Sex: Male, Date of Birth: 15 March, 1992, Category –General (EWS), Marital Status: Single, Nationality: Indian ,Languages Known: English, Hindi and Bengali, Personal Traits: Team spirit, Hardworking, Ability to work in challenging environment, Hobbies: Reading, Traveling, Singing

- Permanent Address: Vill: Radha Ballav Chak, P.O: Bara kumar Chak, P.S: Moyna. Dist.: Purba Medinipur, Pin: 721647, State:-West Bengal, India

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REFERENCES

1. **Khanindra Pathak**
   Professor and Head of Department of Mining Engineering, IIT Kharagpur
   Email: khanindra@mining.iitkgp.ernet.in, Phone: +91-9800877877

2. **Abhisek Chakrabarty**
   Assistant Professor of Department of Remote Sensing and GIS, Vidyasagar University
   Email: abhisek@mail.vidyasagar.ac.in, Phone: +91-9474621160

3. **Anirban Dhar**
   Assistant Professor, Department of Civil Engineering, IIT Kharagpur
   Email: anirban@civil.iitkgp.ernet.in, Phone:+ +91 - 3222 – 283432

4. **Dhrubajyoti Sen**
   Professor Department of Civil Engineering, IIT Kharagpur
   Email: djsen@civil.iitkgp.ernet.in, Phone:+91-3222-283452

DECLARATION   I, hereby, declare that the above furnished particulars are true to the best of my knowledge and belief. If given a chance, I will prove my efficiency, loyalty and willingness to work.

Date- 17.07.2020

Narayan Kayet