

CURRICULUM VITAE

Akash Anand

Graduate Research Assistant (Sep 2021 – Present),
Department of Forestry and Wildlife Ecology,
University of Wisconsin Madison, USA

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Google Scholar: <https://scholar.google.com/citations?user=U-a5V24AAAAJ&hl=en>

Researchgate: <https://www.researchgate.net/profile/Akash-Anand-8>



Previous Positions:

1. Junior Research Fellow (Dec 2019 – July 2021)

Institute: Institute of Environment and Sustainable Development, Banaras Hindu University, India.

Project : Hyperspectral Imaging for sharper definition of Himalayan Ecosystems and its high value plant species under climate uncertainties.

Education

Central University of Jharkhand (CUJ)

Integrated M.Tech in Geoinformatics (**June, 2019**)

Major: Remote Sensing and GIS

Percentile – 8.09 SGPA

O.P. Jindal School, Patratu, Ramgarh

Intermediate: PCM, C++ with MySQL (**June 2014**)

Percentile: 74.2%

Saraswati Shishu Vidya Mandir, Patratu, Ramgarh

Matriculation: CBSE (**May 2012**)

Percentile: 9.4 CGPA

Skills

- ✓ Technology: ArcGIS-10.3, Erdas Imagine-9.2 & 14, ENVI- 5.2, QGIS, IDRISI, Fragstats.
- ✓ Programming: Python, R, Google Earth Engine, MySQL, OpenGrads, C++.
- ✓ Languages: Hindi, English.

Research Articles (National/ International Journal)

- **Akash Anand**, Ramandeep Kaur M. Malhi, Ashwini N. Mudaliar, Prem C. Pandey, Prashant K. Srivastava, G.Sandhya, “*Optimal band characterization in reformation of hyperspectral indices for estimating species diversity using EO-1 Hyperion*”, Physics and Chemistry of Earth, Elsevier, Elsevier, 2021.
- **Akash Anand**, Anand Singh Dinesh, Prashant K Srivastava, Sumit Kumar Choudhary, A K Verma, Pavan Kumar, ”*Rainfall Rate estimation over India using Global Precipitation Measurement’s Microwave Imager dataset and Machine Learning algorithms*”, Geocarto International, Taylor & Francis, 2021.
- Ram Kumar Singh, Martin Drews, Manuel De la Sen, ..., **Akash Anand**, ..., Pavan Kumar, “*Analysis of Climatic Factors and its impact on the COVID-19 using Statistical Forecasting and Remote Sensing*”, Scientific Reports, Nature, 2021.
- Ramandeep Kaur M. Malhi, **Akash Anand**, Prashant K. Srivastava, Sumit K. Chaudhary, Manish K Pandey, Mukund Dev Behera, Amit Kumar, Prachi Singh and G. Sandhya Kiran, "*Synergistic evaluation of Sentinel 1 and 2 for biomass estimation in a tropical forest of India*", Advances in Space Research, Elsevier, 2021.
- Swati Maurya, Prashant K. Srivastava, Aradhana Yaduvanshi, **Akash Anand**, George P. Petropoulos, Lu Zhuo, R. K. Mall, “*Future Projection of soil erosion using Coupled Model Intercomparison Project and Earth Observation datasets*”, Journal of Hydrology, 2021.
- R. K. M. Malhi, Manish K Pandey, **Akash Anand**, P.K. Srivastava, George Petropoulos, ... & B. K. Bhattacharya, ”*Band selection algorithms for foliar trait retrieval using AVIRIS-NG: a comparison of feature based attribute evaluators*”. Geocarto International, 2020.
- **Akash Anand**, Prem Chandra Pandey, George Petropoulos, Andrew Pavlides, Prashant K Srivastava, Jyoti K. Sharma , Ramandeep Kaur M. Malhi, “*Use of Hyperion for Mangrove Forest Carbon Stock Assessment in Bhitarkanika Forest Reserve: A Contribution Towards Blue Carbon Initiative*”. Remote Sensing, 2020.
- Ramandeep Kaur Malhi, **Akash Anand**, Prashant K. Srivastava, Sandhya Kiran, George Petropoulos, Christos Chalkias, ”*An Integrated Spatiotemporal pattern analysis model to assess and predict the Degradation of Protected Forest Areas*”, International Journal of Geo-information, 2020.
- Ramandeep Kaur M. Malhi, **Akash Anand**, Ashwini N. Mudaliar, Prem C. Pandey, Prashant K. Srivastava, G. Sandhya Kiran. 2019. “*Synergetic use of in situ and hyperspectral data for mapping species diversity and above ground biomass in Shoolpaneshwar Wildlife Sanctuary, Gujarat*”, Tropical Ecology, 2019.
- Prem Chandra Pandey, **Akash Anand**, Prashant Kumar Srivastava, "*Spatial Distribution of Mangrove Forest species and Biomass Assessment Using Field Inventory and Earth Observation Hyperspectral data*", Biodiversity and Conservation, 2019.
- **Akash Anand**, Suraj Kumar Singh, Shruti Kanga, ”*Estimating the change in Forest Cover Density and Predicting NDVI for West Singhbhum using Linear Regression*”, International Journal for Environmental Rehabilitation and Conservation, 2018.
- Avinash Kumar Ranjan, Satya Prakash, **Akash Anand**, Santosh Kumar Verma, Lakhindar Murmu, Patibandla B Sraavan Kumar. “*Groundwater Prospect Variability Analysis with Spatio-Temporal Changes in Ranchi city, Jharkhand, India using Geospatial Technology*” International Journal of Earth sciences and Engineering, 2017.

- Kumar Ashwini, **Akash Anand**, Ramappa G. Patil, "Remote Sensing Based approach on Recent changes in the Platform of River Ganga from Mirzapur to Ballia", Imanager's Journal of Future Engineering and Technology, 2018.
- Avinash Kumar Ranjan, **Akash Anand**, Patibandla B. Sravan Kumar, Santosh Kumar Verma, Lakhindar Murmu "Prediction of Land Surface Temperature within Sun city Jodhpur (Rajasthan) in India using Integration of Artificial Neural Network and Geoinformation technology" Asian Journal of Geoinformatics, 2017.
- Avinash Kumar Ranjan, **Akash Anand**, Vallisree S, Rahul Kumar Singh. "LU/LC change detection and forest degradation analysis in Dalma Wildlife Sanctuary using 3S Technology: A case study in Jamshedpur-India," AIMS Geosciences, 2016.

Under Review:-

- **Akash Anand**, Manish Kumar Pandey, Prashant K. Srivastava, "Species Distribution Modelling of *Rhododendron Arboreum* using Convolutional Neural Networks and Conventional Approaches", Journal of Applied Remote Sensing, SPIE.
- **Akash Anand**, Prashant K. Srivastava, A.K. Verma, "Microwave Radiative Transfer Models and ground based Joss-Waldvogel Disdrometer for retrieving rain rates from GPM/GMI data", Atmospheric Research.
- Ayushi Gupta, Prachi Singh, Prashant K. Srivastava, Manish K. Pandey, **Akash Anand**, K. S. Chandra Sekar, Karuna Shanker, "Development of Hyperspectral Indices for Anti-Cancerous Taxol Content Estimation at High Altitude Himalayan Region", Geocarto International, Springer.

Chapters

- **Akash Anand**, "Sentinel SAR Data and in-situ based High resolution Above ground Carbon Stock Estimation within the open forests of Ramgarh District", Spatial Information Science for Natural Resource Management, June 2020, DOI: 10.4018/978-1-79985027-4. (Publisher: IGI Global)
- **Akash Anand**, Prachi Singh, Prashant K. Srivastava, Manika Gupta, "GIS-based analysis for soil moisture estimation via kriging with external drift", Agricultural Water Management – Theories & Practices, August 2020, DOI: 10.1016/B978-0-12-812362-1.00019-9. (Publisher: Elsevier)
- Prashant K. Srivastava, Ramandeep Kaur M. Malhi, Prem Chandra Pandey, **Akash Anand**, Prachi Singh, Manish Kumar Pandey, Ayushi Gupta, "Revisiting hyperspectral remote sensing: origin, processing, applications and way forward", Hyperspectral Remote Sensing: Theories and Applications, August 2020, DOI: 10.1016/B978-0-08-102894-0.00001-2. (Publisher: Elsevier)
- Prachi Singh, **Akash Anand**, Prashant K. Srivastava, Arjun Singh, Prem Chandra Pandey, "Delineation of Ground Water Potential Zone and Site-suitability of Rainwater Harvesting Structure using Remote Sensing and In-Situ Geophysical Measurements", Advances in Remote Sensing for Natural Resource Management, August 2020, (Publisher: Wiley)

Internships / Trainings

1. Participated in a 10 days short training on “Applied Deep Learning, Computer Vision & NLP with Python” organized by Edulabs in association with E-Cell IIT Hyderabad from 16th – 27th February 2021.
2. Participated in the 6th Graduate Seminar held at the Institute of Environment and Sustainable Development, Banaras Hindu University from 15th – 16th March, 2021.
3. Participated in the workshop on High Performance Computing (HPC) during 20-25 January, 2020 organized by BHU, IIT (BHU) and C-DAC at DST-Centre for Interdisciplinary Mathematical Sciences (CIMS), Institute of Science, BHU, Varanasi.
4. Participated in the 2nd National Workshop on Techniques in Hyperspectral Data Analysis and Processing held between 27th -31st January, 2020 at Environment and Sustainable Development, jointly organized by Institute of Environment and Sustainable Development and IIT BHU.
5. Attended one week training programme on “Calibration and Validation of Satellite sensors and derived products” under TREES program from 22nd – 26th October, 2018 at Space Application Centre (SAC), ISRO Ahmedabad, India.
6. Participated in National Workshop “Popularization of Remote Sensing Based Maps & Geospatial Information” jointly organized by ISRS & ISRO, August 11, 2017.
7. One month internship at Dalma Wildlife Sanctuary (1st June 2016 – 31st June 2016) on DGPS based Boundary allocation and forest degradation analysis of Dalma” under Ministry of Environment and Forests, Government of India.

Seminar/ Conferences

- **Akash Anand**, Sumit K Chaudhary, Manish K Pandey, Ayushi Gupta, Prachi Singh, Prashant. K Srivastava, “ Estimation and Generation of Carbon Stock Product using Machine Learning Algorithm through Invocation of Cloud-Based Web Services”, at ISRS-ISG National Symposium- 2020, SAC-ISRO, Ahmedabad India.
- **Akash Anand**, Ramandeep Kaur M. Malhi, Prashant Kumar Srivastava, Kanhaiya Lal, Prem Chandra Pandey (2019) , "GPM based Rainfall-Runoff Estimation for a Unit Storm Period and Bright Band detection over Kosi River Basin" at Climate Change Impacts, Vulnerabilities, and Adaptation: Emphasis on India and Neighbourhood (CCIVA 2019), IIT Kharagpur.
- Ramandeep Kaur M. Malhi, **Akash Anand**, Prashant Kumar Srivastava, G.SandhyaKiran (2019) , "Spectral mixture analysis of EO-1 Hyperion data in mapping of Plant functional types" at Climate Change Impacts, Vulnerabilities, and Adaptation: Emphasis on India and Neighbourhood (CCIVA 2019), IIT Kharagpur.
- **Akash Anand**, Prashant Kumar Srivastava, Prem Chandra Pandey, and Ramandeep Kaur M. Malhi (2019), "Earth Observation and Analytical Hierarchy Process based fusion technique to model Regional Forest Fire Risk", Vol. 21, EGU2019-12423, EGU General Assembly 2019.
- **Akash Anand**, Raghbir Raza (2018), “Remote Sensing based approach on recent changes in the platform of River Ganga from Mirzapur to Ballia” at 5th International Conference on “Challenges & Solutions for a Sustainable Environment. [1st Prize]

- **Akash Anand**, Prashant K. Srivastava, Kanhaiya Lal, Prem Chandra Pandey (2018),"Estimation of Above Ground Biomass for assessing the total carbon stock .within the forest cover of Ramgarh District using Sentinel 1 SAR data", International Conference on Environmental Challenges and Sustainability (ICECS 2018). [**3rd Prize**].

Workshops

- Provided a lecture and hand-on-training at the “Online Workshop on Species Distribution Modelling using R” held at the Institute of Environment and Sustainable Development, Banaras Hindu University from 15th – 16th March, 2021.

Extra-Curricular

- Presented a Case Study on “Exoplanets: Trappist 1 System” in National Student’s Space Challenge 2017 held at IIT Kharagpur.
- Semi-finalist in Eureka 2016 held at IIT Bombay.
- Participated in a B-Plan competition in Innovriti 2017 at Manipal University Jaipur.
- Participated in 103rd Indian National Science Congress, Mysuru 2015.

Declaration: - I do hereby declare that all the information given above is true to the best of my knowledge and belief.

Yours Truly,
Akash Anand