

# Viral A. DAVE

+ (91) 942 768 7888 @ daveviral1@gmail.com



Ph.D. scholar in Pattern Recognition and Machine learning applications in the geospatial area with a formal training in Geomatics (M.Tech) and Electronics and Communication Engineering (B.E.). Core interests are learning analytics (application of AI and ML in Remote Sensing) and GIS applications. Objective is to be a part of an organization whose environment promotes team effort and provides opportunity for value based growth.

## EDUCATION

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| Present | <b>Doctor of Philosophy</b>   CPI : 8.36<br><i>Dhirubhai Ambani Institute of Information Communication and Technology,<br/>Gandhinagar - India</i><br>Thesis : "Desertification characterization using predictive soil modelling and pattern recognition"<br>Supervisor : Prof. Ranendu Ghosh  |
| 2013    | <b>Master of Technology, GEOMATICS</b>   PERCENTAGE : 78.68<br><i>Indian Institute of Surveying and Mapping - Survey of India<br/>Jawaharlal Nehru Technological University<br/>Hyderabad - India</i><br>Dissertation : "Developing software for Block Adjustment of Cartosat-1 full pass images using Rational Polynomial Model based approach"<br>Advisor : Dr. Sanjay Singh (Scientist-E, SAC-ISRO) |
| 2011    | <b>Advanced PG Diploma, GEOINFORMATICS &amp; SATELLITE COMMUNICATION</b>   PERCENTAGE : 60.40<br><i>Gujarat University,<br/>Ahmedabad - India</i>  |
| 2009    | <b>Bachelors in Engineering, EC</b>   PERCENTAGE : 60.40<br><i>Dharmsinh Desai University,<br/>Nadiad - India</i>  |

## WORK EXPERIENCE

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| Sep. 2021 | <b>Teaching Assistant, DHIRUBHAI AMBANI INSTITUTE OF INFORMATION JAN 2016 COMMUNICATION AND TECHNOLOGY, Gandhinagar-India</b>  |
| Present   | > Assisted in three courses offered to B.Tech, M.Tech, and PhD students. Tutorials and lab assignments session and designing is the key role.  |
| Sep. 2017 | <b>Senior Research Fellow, DHIRUBHAI AMBANI INSTITUTE OF INFORMATION JAN 2016 COMMUNICATION AND TECHNOLOGY, Gandhinagar-India</b>  |
| Sep. 2021 | > As a part of SAC-ISRO sponsored project "Desertification and Land Degradation" under Prof. Ranendu Ghosh. my research was focused on developing Image processing as well as Pattern Recognition techniques to identify the desertification process in the study area of Gujarat.   |
| Dec. 2013 | <b>Senior Research Fellow, ANAND AGRICULTURAL UNIVERSITY, Anand</b>  |
| Mar. 2017 | > Worked on project "FASAL-Forecasting Agricultural output using Space, Agro-meteorology and Land based observations" sponsored by SAC-ISRO. My work involved Area estimation of Cotton and Sugarcane in Gujarat using RISAT data, which involves the field ground truth data collection, sampling, and model development. |
| Sep. 2012 | <b>MTech Research Intern, SPACE APPLICATIONS CENTER, ISRO, Ahmedabad</b>   |
| Sep. 2013 | > My work involved designing and developing algorithm for Block Adjustment of Cartosat-1 full pass images using Rational Polynomial Model based approach.  |

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|-----------|---|
| Dec. 2010 | Research Intern , BHASKARACHARYA INSTITUTE FOR SPACE APPLICATIONS AND GEO-INFORMATICS, BISAG, Gandhinagar   |
| Aug. 2011 | > Worked on a project on “Developing Satellite Image Analysis package using Open Source Software”. During this training we developed a tool to open georeferenced images and do some basic image processing analysis. |

## RESEARCH INTERESTS

Remote Sensing, Geographic Information System, Machine Learning, Artificial Neural Networks, Deep Learning, Pattern Recognition, Image Processing

## SKILLS & INTERESTS

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| <b>Programmation</b>       | Python, C/C++, R   |
| <b>Softwares / Tools</b>   | QGIS, ArcGIS, ENVI, ERDAS, Google Earth Engine, MATLAB, Autocad, Photoshop, InDesign |
| <b>Typography</b>          | LaTeX, Microsoft Office  |
| <b>Professional Skills</b> | Project Management, Team work, Communication, Report preparation, Problem Solving    |
| <b>Language</b>            | Gujarati(native), Hindi (fluent), English (fluent)                                   |
| <b>Interests</b>           | Travelling, Horse Riding, Graphic design, Board games                                |

## PUBLICATIONS

### Journals :

- > **Monitoring cotton crop condition through synergy of optical and radar remote sensing**  
Dipanwita Haldar, Rojalin Tripathy, Viral Dave, Rucha Dave, B. K. Bhattacharya, Arundhati Misra  
*Geocarto International* 37 (2), 377-395, 2022 (IF:3.450)  
DOI : 10.1080/10106049.2020.1726506
- > **Radar vegetation index for assessing cotton crop condition using RISAT-1 data**  
Haldar Dipanwita, Viral Dave, Arundhati Misra, and Bimal Bhattacharya  
*Geocarto International* 35, no. 4 : 364-375, 2020 (IF:1.380)  
DOI : 10.1080/10106049.2018.1516249
- > **Identification of cotton crop in Gujarat using multi date RISAT-1 SAR data**  
Rucha Dave, Dipanwita Haldar, K. Manjunath, Viral Dave, Manab Chkraborty, Vyas Pandey  
*Journal of Agrometeorology* 21, no. Special issue- "NASA 2014" part-III) : 1-6, 2019 (IF : 0.557)  
Source : pdf
- > **Identification of Desertification Hot Spot Using Aridity Index**  
Viral Dave, Megha Pandya, Ranendu Ghosh  
*Annals of Arid Zone* 58(12) : 39-44, 2019  
Source : pdf
- > **Monitoring Cotton (Gossypium sps.) Crop Condition through Synergy of Optical and Radar Remote Sensing**  
Dipanwita Haldar, Rojalin Tripathy, Viral Dave, Rucha Dave, B. K. Bhattacharya, Arundhati Misra  
*Preprints*, 2018  
DOI : 10.20944/preprints201807.0390.v1
- > **Evaluation of full-polarimetric parameters for vegetation monitoring in rabi (winter) season**  
Haldar Dipanwita, Rucha Dave, Viral Dave  
*The Egyptian Journal of Remote Sensing and Space Science* 21 : S67-S73, 2018  
DOI : 10.1016/j.ejrs.2018.05.002
- > **Crop monitoring and classification using multitemporal polarimetric SAR (RISAT-1) data for cotton and groundnut crops of Gujarat**  
Rucha Dave, Dipanwita Haldar, Viral Dave, K. Manjunath, Vyas Pandey  
*Journal of Agrometeorology* 19 (Special Issue - AGMET 2016) :171-178, 2017 (IF : 0.557)  
Source : pdf
- > **Cotton Crop Biophysical Parameter Study Using Hybrid/Compact Polarimetric RISAT-1 SAR Data**  
Viral A. Dave, Dipanwita Haldar, Rucha Dave, Arundhati Misra, Vyas Pandey  
*Progress In Electromagnetics Research M*, Vol. 57, 185-196, 2017 (IF : 2.949)  
DOI : 10.2528/PIERM16121903

### Conference :

- > **Evaluation of Tree Species Classification Methods using Multi-Temporal Satellite Images**  
Saha Arnav, Srikumar Sastry, Viral A. Dave, and Ranendu Ghosh

2020 IEEE Latin American GRSS ISPRS Remote Sensing Conference (LAGIRS), pp. 40-43. IEEE, 2020

DOI : 10.5194/isprs-archives-XLII-3-W12-2020-79-2020

› **Artificial Neural Network (ANN) based Soil Electrical Conductivity (SEC) prediction**

Megha Pandya, Viral Dave, Ranendu Ghosh

2020 7th International Conference on Signal Processing and Integrated Networks (SPIN), pp. 581-586, 2020

DOI : 10.1109/SPIN48934.2020.9071257

› **An Assessment of the Desertification Vulnerability based on MEDALUS model**

Viral A. Dave, Megha Pandya, Ranendu Ghosh

2019 International Conference on Intelligent Computing and Remote Sensing (ICICRS), pp. 1-6, 2019

DOI : 10.1109/ICICRS46726.2019.9555853

› **Fuzzy integrated desertification vulnerability model**

Viral A. Dave and Koyal Sur

The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences , Volume XLII-5, 395-401, 2018

DOI : 10.5194/isprs-archives-XLII-5-395-2018

**Contribution in Book :**

› **Desertification and Land Degradation Atlas of India (Assessment and analysis of changes over 15 years based on remote sensing)**

Space Applications Centre, ISRO, Ahmedabad, 2021

ISBN : 978-93-82760-39-9

› **El Niño episodes and agricultural productivity in Gujarat**

Technical Bulletin, AAU, 2014

URL : pdf



## CONFERENCES, WORKSHOPS & SEMINARS

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- 2019 Paper presented at "2019 International Conference on Intelligent Computing and Remote Sensing (ICICRS) organized by C. V. Raman College of Engineering, Bhubaneswar, INDIA in association with IEEE and GRSS during 19-20 July 2019.
- 2018 Paper presented at "TROPMET-2018 National Symposium on Understanding Weather and Climate Variability : Research for Society organized by Indian Meteorological Society during 24 to 27 October, 2018 at Banaras Hindu University, Varanasi, Uttar Pradesh
- 2018 Paper presented at "TC V Midterm Symposium - Geospatial Technology - Pixel to People" at IIRS, Dehradun, India during November 20-23, 2018
- 2016 Poster Presented at "NATIONAL SYMPOSIUM on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems" Organised by Indian Society of Remote Sensing and Indian Society of Geomatics during 7-9 December 2016 at IIRS, Dehradun.
- 2014 "NASA-ISRO Synthetic Aperture Radar (NISAR) Science Workshop" organized by SAC, Ahmedabad during 17-18 November 2014.
- 2014 Paper Presented at International Symposium on "New-Dimensions in Agrometeorology for Sustainable Agriculture(NASA-14)" held at G.B.Pant University of Agriculture & Technology, Pantnagar, India during October 16-18, 2014.
- 2014 Hands on training on "Microwave Remote Sensing and Data Processing" organized by Civil Engineering Department, Nirma University, GRSS IEEE Gujarat chapter and Indian Society for Geomatic, Ahmedabad chapter during 16-21 June, 2014 at Institute of technology, Nirma University, Ahmedabad.
- 2010 IMS-A workshop on "Satellite Meteorology : 50 years journey" organized by Indian Meteorological Society – Ahmedabad chapter and hosted by Space Applications Centre, ISRO, Ahmedabad and Gujarat Science City, Ahmedabad on 29th October 2010.

## + AFFILIATIONS

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Life member of

- › Indian Society of Geomatics, Ahmedabad Chapter
- › Indian Society of Remote Sensing
- › Association of Agrometeorology, Anand

## RESEARCH PROJECT MENTORING

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- 2020 Predictive Mapping of Soil Organic and Inorganic Carbon Stocks over DA-IICT Campus.
- 2020 Geometric and Radiometric Assessment of Sentinel-2A and Sentinel-2B sensors.
- 2019 Evaluation of tree species classification methods using multi-temporal satellite images.
- 2019 Hierarchical Land Use and Land Degradation Process Mapping - Assessment of Various Digital Techniques.
- 2018 Rainfall prediction for the state of Gujarat using deep learning technique.

## REFERENCES

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### Prof. Ranendu Ghosh

Registrar, DAIICT

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☎ +91 9327043612

### Prof. Rucha Dave

Asst. Professor, AAU, ANAND

@ rch.dave1@gmail.com  
☎ +91 9998467753

### Dr. Dipanwita Haldar

Scientist ASD/ERRSG, IIRS, ISRO-DEHRADUN

@ dipanwita@iirs.gov.in  
☎ +91 9898126825

## PERSONAL DETAIL

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 16 May 1988 | Maharashtra, India

 D-404, Sagar Sangeet Heights, Near Nilgiri apartment, Sola Bhagwat, Ahmedabad, Gujarat 380060



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**Declaration :** I hereby declare that the above-mentioned information is true to the best of my knowledge.

VIRAL A DAVE  
23 décembre 2022