CURRICULUM VITAE

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Objective:

A growing career with a progressive organization where my education skills, abilities and experience in an executive capacity is utilized, where I can effectively contribute to operations that best matches my skills and experience.

Professional Experience: -

Having 3.8 Years of real time experience as an analyst and researcher, adapted to perform object based statistical analysis, to visualize, to interpret and report the outcomes, with the help of GIS and Remote Sensing data**.** Strong skills in handling big data and software proficient.

Experience:

July 2018 - Present

Calibration and Validation of SAR Sensor.

Working as a Research Fellow in collaborative project between ISRO and Nirma University. Project objective is to carry out post launch calibration activities and validation of SAR sensors. It includes radiometric and polarimetric calibration of SAR data, essential for quantitative analysis and it allows us to go for temporal and multi sensor analysis for various resources applications, helps to evaluate the change in radar backscatter due to temporal change or due to change in SAR parameters. Calibration method helps to establish relationship between SAR sensor output and known parameter of a standard target.

Responsibilities:

- To estimate radiometric errors such as RCS error estimation and SCR values for full or dual pol data and apply the correction to the SAR data.
- To estimate polarimetric errors such as co-pol channel imbalances and cross-talks for full polarimetric data and to apply the correction to the PolSAR data.
- To explore new sites for permanent deployment of Corner reflectors and

study its response

- To estimate the temporal stability of homogenous distributed targets in terms of SAR reflectivity.
- To carryout periodical ground observations for current and upcoming SAR sensor's calibrations.
- Testing newly designed passive radar reflectors used in ground observations with the help of data acquired from well calibrated sensors.

June 2017- July 2018

Monitoring of Snow Cover Over Himalaya Region.

Worked on a joint collaboration project between ISRO and CEPT University. Objective is to monitor the temporal variation (decade) of snow cover in Himalaya region. Advanced Wide Field Sensor (Awifs) data with 50mts spatial resolution is used and NDSI (Normalized Difference Snow Index) based algorithm is applied to estimate Snow cover area. Preprocessing and data analysis are performed with the help ERDAS imagine software and Maps are plotted for each basin.

Responsibilities:

- Database filtering and management,
- To determine and utilize various normalized indices to analyze and intermediate results are obtained.
- Post analysis calculations are performed with the help ERDAR imagine software

July 2015 - Dec 2015

Sonification – generation of image from sound through ecognition.

Project was to generate image from different classes of sound. Various approaches are made to achieve this objective, like studying of sound generation, different sound and image theories and their application and supported hardware specifications and technology needed for image development through sound.

Responsibilities: Data flattening and database management, processing on 6 meters Linear Imagining Self Scanning -III satellite data, creating image matrix and interpreting ZCR (Zero Crossing Rate) and STE (Short Term Energy) of satellite image using Mat lab.

Peer reviewed Research Paper:

11July2018 **VISUALIZATION AND ANALYSIS OF CELLULAR & TWITTER DATA USING QGIS. (peer reviewed)**

International Society for Photogrammetry and Remote Sensing. Volume XLII-4/W8.

Sowkhya, B., Amaduzzi, S., and Raawal, D.: VISUALIZATION AND ANALYSIS OF CELLULAR & TWITTER DATA USING QGIS, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLII-4/W8, 199-209.

Published at https://doi.org/10.5194/isprs-archives-XLII-4-W8-199-2018, 2018.

Conference Proceedings:

Gamma Naught Stability Assessment of Distributed target sites using C and L band data

Fourth ISSE National Conference -INAC 2019

Sowkhya, B., Shweta Sharma, Aloke K Mathur and Parul R Patel "Gamma Naught Stability Assessment of Distributed target sites using C and L band data", Indian Society of Systems for Science and Engineering, SAC, Ahmedabad chapter. "Systems for Transforming India: Challenges and Opportunities, 2019".

Technical Skills

PolSARpro v6.0, SNAP v8.0, QGIS v3.16, ArcGIS v10.5, ENVI v5.3, ERDAS IMAGINE, Geo Server, PostgreSQL, AutoCAD, ArcGIS Pro, ArcGIS Online.P

Notable Projects

ANALYZE TO REVEAL PATTERNS, TRENDS & ASSOCIATIONS OF HUMAN BEHAVIOR AND INTERACTIONS USING GEOSOCIAL, CELLULAR DATA AND GIS

Feb 2017- **(Thesis Study Area: Udine province, Italy)**

May 2017 To understand movement and trends of individuals with the help of geosocial, cellular data and GIS. Created model in open source software, which give results that satisfy the mentioned query. Prepared thematic maps that shows individual presence in particular area at specified time. Origin Destination Flow lines which show the origin and destination of the individual. To know the happening of event and whether users are tweeting, Tweet Density maps are prepared.

July 2016- **3D GIS AND VISUAL STUDIO**

Dec 2016 Created 3D model of CEPT University in ArcGIS Desktop, performed View shed Analysis i.e., Placing existing cameras on the 3d CEPT model, located blind spots that are conceal by existing cameras, and suggested places where more observation was necessary.

Sep 2016 **URBAN EXPANSION AND CHANGES IN LAND USE.**

Dec 2016 To determine the urban expansion in past, present and future for the particular study area and land use changes are determined. LISS III data is used for the study and SLEUTH model is used to determine the objective. This model refines the urban and land use change enabling predictions at regional, continental and eventually global scales

Jan 2016- **SPATIAL DECISION SUPPORT SYSTEM FOR GOVERNANCE.**

May 2016 Formed a GIS grounded backing system, which function upon spatial decision that can assist the prevailing system of FDCA (Food and Drug Control Administration).

Dec 2015- **GEOMARKETING WITH DIGITAL EYES.**

Jan 2016 Operated on QGIS, for determining areas where CEPT publicity to be made in order to upsurge its intake of students. Maps of district wise number of institutions, concentration of participatory and non-participatory students, and student intake capacity for civil engineering degree were prepared.

July 2015- Dec 2015 **NOVEL ADDRESSING SYSTEM USING LIGHT POLE LOCATIONS.**

Devised a novel way of addressing houses (in a team of four students) using GPS points of light poles in the ward, and the pre-existing house locations.

Education

Jul 2015 - 2017 **Master of Technology, Geomatics.**

Centre for Environment Planning and Technology (CEPT University), Ahmedabad, Gujarat. GPA: 2.5/4.3.

Jul 2012- Apr 2015 **Bachelor of Technology, CivilEngineering.**

Chaitanya Bharathi Institute of Technology (C.B.I.T), Hyderabad, Telangana. Aggregate Percentage:70%

Final project: Design of single lane bridge

Jul 2009- Apr 2012 **Diploma in Civil Engineering.**

Government Polytechnic College**,** Hyderabad, Telangana.

Aggregate Percentage:80%

Certification courses

July 2016- Aug 2016 **GOING PLACES WITH SPATIAL ANALYSIS** (Hosted by ESRI online)

Cultured to Understand & compare places, to determine how places are related, finding best location and paths, detecting & quantifying pattern, making predictions.

April 2016- June 2016 **THE LOCATION ADVANTAGE**(Hosted by ESRI online)

Cultured how to improve and identifying suitable place for business development – how to business, geography & location advantage, understanding market opportunity, Choosing the right location, marketing understanding your customers, location and supply chain management, understanding risk using location based information.

Feb 2016- **DO YOURSELF GEOAPPS**(Hosted by ESRI online)

Mar 2016 Cultured to work with ArcGIS online – how to Collect and Share data, to create story map, to build web app with web app builder, build native app using app studio for ArcGIS, share open data through web app, to use java script to customize a Web application.

March 2015- **GEOSPATIAL TECHNOLOGIES FOR URBAN PLANNING**
(hosted by IIRS – Indian Institute of Remote Sensing)

Feb 2016 Spatial Analysis for urban planning.