Rahul Rao Siddharth

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EDUCATION:

Year	Degree	Institution, City	CPI / %
2017	M.Tech., Geo-Informatics, Civil Engineering	Indian Institute of Technology, Kanpur	7.36/10
2010	Bachelor of Technology in Electronics Engineering	Kamla Nehru Institute of Technology, Sultanpur (UP)	60.42%

PROFESSIONAL EXPERIENCE:

Resson Aerospace (CS4 Robotics India Pvt Ltd) [June'19-Nov'20]
GIS-Data Processing Technician
Work

- To update the GIS data all the time to maintain its accuracy and integrity which in turn maintains the overall data quality. This is done by Quality Assurance procedures which include Map completeness, Positional Accuracy, Attributes Completeness, Symbology and Annotation etc.
- To collect spatial data through different available sources like data from aerial surveys or satellite images according to the need of a particular project.
- To filter out the unnecessary presence of obstacle like clouds, haze and shadows in the satellite data to access relevant information.
- To filter out the unwanted plants and insects pests that are present in crop field and to estimate the damage caused by them.

BIRLA INSTITUTE OF TECHNOLOGY [Feb'18- Mar'19]
Remote Sensing Division, Mesra, Ranchi (Off Campus-Jaipur)
Junior Research Fellow (JRF)

ISRO sponsored R&D project entitled "Characterization of Land Cover using Ku and C band data and its applications

- SCATSAT Data (ISRO), primarily dedicated to Ocean wind observation, was instead used to understand the land features present in whole of India and particularly in Rajasthan. It was relatively successful attempt to identify different features as 65-70% of the outcome matching to that of earlier available data concerning Land Features.
- Sentinel Data was also used for the analysis and comparison.
- For the Analysis, Data manipulation, Pattern recognition and classification techniques were used with the help of ArcGIS, Erdas Imagine softwares along with codes generated in Matlab and Python.

INDIAN INSTITUTE OF TECHNOLOGY KANPUR [Mar'15 – April'16]
Teacher Assistant

- Conducting Lab for B. Tech Students for a Geo Informatics course
- Assisting "Engineering drawing" classes for B.tech 1st year students.

TECHNOSYS SECURITY SUSTEMS PVT LTD. **[**Jul'12 –Dec'13**]**

Pre-sales Engineer (Technical)

Work

- Product and Software research, Introduction of new Technology.
- Planning for timely implementation of projects on IP surveillance.
- Prepare Product compliance and Deciding the Product and External business relation.

RESEARCH AND TERM PAPERS:

Development of Local Geoid undulation Model of IIT Kanpur Area

M.Tech. Thesis (Thesis Supervisor: Dr. Onkar Dikhsit & Dr. B. Nagarajan)

- This project was undertaken to develop a geoid model for the IIT Kanpur campus to predict orthometric height values at all points in the study area. This model was developed as India does not possess its own regional geoid model currently
- Developing Local Geometric Geoid undulation Model for IIT Kanpur area using GNSS and leveling observations at selected ground control points.
- Using Orthometric height at the GNSS Base Station instead of Ellipsoidal height to find heights of all ground control points using GNSS observations.
- Using Global Geopotential Model (EGM08) to compute the Geoid undulation at the ground control points. Compared with different resolution with different accuracy for given urban area.
- Validating the results obtained with that of already existing world Geoid models.

Smoothing filters for SAR imagery (*Supervisor: Dr. Onkar Dikshit)*

- For the purpose of removal of speckle noise from the SAR imagery given as input, application of various filters is done in the input image and the output to be obtained are filtered image with no speckle noise present in the imagery.
- There are various filters like Kuan filter, Lee filter, Gamma filter, Frost filter and Sigma filters which help in reducing speckle noise.
- If we have input image, we can apply different filters according to the mechanism they follow onto it with the help of MATLAB and can extract the output images with lesser speckle noise. Also, we can compare the output images from different filters to analyze which filter is relatively better than the other filters.

Remote Sensing To Study Oil Spills *(Supervisor: Dr. Bharat Lohani)*

- Real time oil spill remote sensing information helps in minimising the potentially disastrous effects of major oil spills in marine atmosphere.
- Various remote sensing techniques like Airborne Radar and Spaceborne Radar are used involving use of various sensors operating in different spectrum.
- For better results, effective response to major oil spills requires combination of airborne and space borne sensor systems.

Collinearity and Coplanarity Condition in Photogrammetry (*Supervisor: Dr. Onkar Dikshit)*

- Photogrammetry is the practice of determining the geometric properties of objects from photographic images.
- The application of single photograph in photogrammetry is limited because they cannot be used for reconstructing the object space. Even though the exterior orientation elements may be known it will not be possible to determine ground points unless the scale factor of every bundle ray is known.
- This problem is solved by exploiting stereopsis that is by using a second photograph of the same scene, taken from a different position. Two photographs with different camera positions that show the same area, at least in part, is called a stereo-pair. Collinearity and coplanarity conditions are applied in these stereo-pairs to find exterior orientation parameters.

Development of Neural Network for System Identification

B. Tech Project ((Supervisor: Mr. Y.K.Mishra)

- It makes use of Neural network for "Anti-lock Braking System"
- A typical anti-lock braking system senses when the wheel locks up is to occur. It then releases the brakes for a very short time and reapplies the brakes when the wheel spins up again. ABS greatly reduces the possibility of skidding during hard braking. ABS also lets the driver steer during braking.

SKILLS:

- **Technical Skills:** Surveying , Image Processing, Photogrammetry, Python
- **Software Skills:** Matlab, Microsoft Office,Excel, Adobe Photoshop, ILWIS, Cloud compare, Fugroviewer, Google earth, ArcGIS, Saga, Erdas Imagine, Trimble office, SNAP,Qgis,ENVI,Pix4D,Supervisely
- **Soft Skills:** Linguistically Vibrant (English, Hindi), Creative, Presentation Skills, Project Management.