

Curriculum Vitae

Deepika Mann

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RESEARCH INTERESTS

My research interests revolve around the interface between remote sensing and GIS technologies, environmental science and climate change. I am particularly interested in Land Use Land Change modelling and improvement of image fusion techniques for enhancing information extraction and to improve the ability to understand the sustainable use of natural resources. I am presently working on the spatio-temporal analysis of the impacts of road infrastructure network development in and around Rajaji National Park, India using landscape ecology principles and complex network theories.

EDUCATION

- PhD (Civil Engineering) 2016-20
Shiv Nadar University
- MSc (Geoinformatics) 2012-14
CGPA 9.56/10 (gold medalist)
TERI University, New Delhi, India
- BSc (H), Chemistry 2009-12
65.3%
Miranda House, University of Delhi, New Delhi, India
- Class 12th, Science 2008-09
80%
Titiksha Public School, Sec-11, Rohini, New Delhi, India
- Class 10th 2006-07
91.4%
Jai Mann Public School, KheraKhurd, New Delhi, India

EXPERIENCE

National Informatics Centre, New Delhi, India (Intern) May 2013-June 2013
Undertook a project on image segmentation using Microsoft Visual Studio and OpenCV under the supervision of Ganesh Khadanga, Technical Director LRISD, NIC, India. email: ganesh@nic.in

Independent study (as a part of the curriculum) July 2013-Nov-2013
Carried out a research project on suitability mapping for Rain water Harvesting sites in India using Multi Criteria Decision Making (MCDM).

Shiv Nadar University (Project Assistant) Jan 2014-May 2014
Worked on Indian Government's Information Technology Research Academy (ITRA) funded Human Sense Project with an aim to explore the viability of smart phones (using Samsung Galaxy S4) as data collection system and delineate comfort zones based on the collected environmental data from Temperature and Humidity mobile sensors, under the supervision of Dr. Prasad Pathak. A part of this work was presented at IAMG (The International Association for Mathematical Geosciences) Conference. 17-20 October, 2014. New Delhi.

Global Hydrogeological Solutions, New Delhi Sep 2014 -Jan 2016.
Junior Research Fellow (Remote Sensing and GIS Expert)
- I have been involved in cutting edge research on application of GIS and remote sensing for solving developmental water problems across India.

- Worked on programs relating to hydrological modelling, mapping the quality, quantity, sustainability and conservation of water funded by the Indian Government's Department of Science & Technology (DST).
- Devised and spearheaded awareness programs for awareness on ground water management practices across several villages in Delhi and Haryana for which I was covered in the regional News.
- Hydro-geological mapping of Ramganga river, Restoration of Badkhal Lake and Mapping rain water harvesting sites in Haryana are three other high-level projects undertaken by GHS in which I was fortunate to be a part of the core team.

Independent Research

April 2016- July 2016

I had also worked on an independent project under guidance of Prof. P.K.Joshi, on improvement of image fusion techniques for hyperspectral imagery using freely available datasets.

Technical Skills

- **Computer Programming languages-C++, SQL (Structured Query Language), Q-Basic.**
- **Proprietary Software**
 - Geographical Information System (GIS)-**ArcGIS** Desktop 9.3/10/10.1 (Proficient in Spatial analyst extension, Conversions)
 - Digital Image Processing (DIP)-**ERDAS Imagine**9.1/9.3, ENVI 4.7
 - Digital Photogrammetry-Leica Photogrammetric Suite (LPS 9.3)
 - Surfer 9
 - Rockworks 14
 - MODFLOW 2005
 - **Matlab 2015b**
 - **eCognition**
- **Open Source Software**
 - ImageJ and SeaDAS for meteorological studies
 - Opticks 4.9.1
 - Weka
 - QGIS 1.7.3
- **Server-Geoserver 2.1.3**
- **OpenCV**
- **Statistical Analysis Software- MINITAB**
- **Msoffice, Microsoft Visual Studio 2010 (Visual C++ in .Net Framework)**

Publications

Book Chapter (Published):

P.Prasad, B. Budhiraja, **D. Mann**. Jan 2016, "Integrating smart platforms to analyse energy patterns in academic buildings", in book: Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment, pp.823-827
DOI: 10.1007/978-3-319-18663-4_127

Journal Publication:

D. Mann, P.K. Joshi. Aug 2017, "A Comparison of Image Classification Algorithms using Hyperion and ASTER data product", Proceedings of the National Academy of Sciences, India Section A: Physical Sciences.

Conference Publication:

D. Mann. Dec 2013, "Creating a gridded population data of India: A comparison and evaluation study of dasymmetric mapping methods ", at **14th ESRI User Conference**, New Delhi.

M. Srivastava, **D. Mann.** 2016, "Sneak Preview of the Base Flows to the Ramganga River using MODFLOW to Simulate the Groundwater Flow in the Ramganga River Basin", in **INC-IAH Seminar**, Faridabad, India.

Extra-curricular Activities

- Won **second prize** for **GIS Quiz** as a part of a team representing TERI University at **14th ESRI User Conference**.
- Attended "**Delhi Sustainable Development Summit**" (as a volunteer) at Hotel Taj Palace, Jan 31st -Feb 2nd, 2013.
- Participated in the **National Symposium on Space Technology for Food and Environmental Security** and Annual Conventions of Indian Society of Remote Sensing and Indian Society of Geomatics at IARI from 5th -7th Dec, 2012.