

# Sanidhya Tyagi

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## EDUCATION

Michigan Technological University , Dept of Surveying Engineering  
M.S (Integrated Geospatial Technology) GPA: 3.83

Aug 2016 – April 2018

University of Petroleum and Energy Studies , Dept of Petroleum & Earth Sciences  
B.Tech. (Geoinformatics Engineering)

July 2011- May 2015

## EXPERTISE

ARCGIS 10.5.1	ERDAS IMAGINE 9.1	Spatial Statistics Analysis	Geology & Geophysics
Managing Geo-Database	Google Earth	Model Builder	AutoCAD
3D Analyst & Spatial Analyst	LU/LC change detection	Python Programming	Surveying & Mapping
Mapping/Cartography	UAV/Aerial Imagery	SQL	LiDAR/GPS/Total Station

## EXPERIENCE

GIS Analyst at Western Land Services, Ludington, Michigan

July – Oct 2018

- Support day to day GIS operations in Ludington, MI office, representing multiple clients, in various states, tied to projects in the exploration & midstream sectors. Geodatabase design, creation, maintenance and quality control based on project driven needs.
- Spatially locate, map, and attribute parcels, leases, drilling units, easements, pipeline routes, and other assets in the Energy industry using legal descriptions, metes & bounds, etc.
- Independently develop and manage web maps, reports, and workflows using Geocortex (Latitude) & Esri based software.
- Identify opportunities to integrate new GIS technologies and execute.

Summer Internship, Spatial IT Solutions Pvt. Ltd, Jaipur, India

May- Aug 2014.

Road Network Analysis and LU/LC change detection of Pune (India) using GIS Techniques.

- Digitized the road maps of Pune city using ArcGIS.
- Road Network Analysis was done.
- Image Classification of Pune City was done using Landsat data over 10 years using ERDAS.
- Change detection in land use and land cover was mapped

## PROJECTS

Pre and Post Fire Land Cover Change Detection in Yellowstone National Park Using GIS Techniques.

- Pre and post fire maps were created for fifteen different fire type.
- Fifteen different Land cover type were mapped within the study area.
- Change in individual land cover area was calculated for fire type.

Creating Arc Toolbox for Watershed Delineation using Python Programming.

- The intent of this project was to have hands on experience on python programming and develop a toolbox which can be re used to perform batch processing for time saving. In this script, DEM file was taken and then Flow direction was calculated
- DEM was filled, and sinks were removed and again flow direction was calculated using the filled DEM. Then using this flow direction flow accumulation was calculated.
- The basin was calculated, and Region group was done, then raster file was converted to polygon and new Acre field was added. Then basins having acre area less than 10 acres were eliminated. Finally, Watershed Delineation was done and Arc Toolbox was created.

Creating and comparing 3D point cloud model using UAV Imagery using Agisoft Photoscan and Precision Mapper.

- Aerial Images were taken using DJI Phantom 4. Images were aligned, and Dense cloud was built.
- Then mesh was built, and texture was added. Finally, a DEM was made using Agisoft Photoscan.
- Then those Images were taken to Precision Mapper software and 2D and 3D point clouds were made, and LAS file was exported to Cloud Compare.
- Finally, comparison of point clouds was done made by Agisoft Photoscan and Precision Mapper.