## GIE 419 Spatial Decision Support Systems

## Assignment 3 TASK

**Task Description:**

In SDSS design frontend visualization is extremely important task, opensource tools, libraries that can be easily linked with other technologies are widely used. In this activity we will explore few widely used tools, technologies, and java script-based libraries that are used in industry.

**Task Details:**

1- Kepler (https://kepler.gl/) is a powerful open-source geospatial analysis tool for large-scale data sets. It can also be linked or integrated with Jupyter notebook used in GIS Programming course. (https://docs.kepler.gl/docs/keplergl-jupyter ). Your task is to explore website and know basic working on Kepler, for this submission you need to create at least 1 map along with 1 page description and working of Kepler.

2- CesiumJS (https://cesium.com/platform/cesiumjs/ ), CesiumJS is an open-source JavaScript library for creating world-class 3D globes and maps with the best possible performance, precision, visual quality, and ease of use. Developers across industries, from aerospace to smart cities to drones, use CesiumJS to create interactive web apps for sharing dynamic geospatial data. Try to understand basic working of cesium and create at least 1 map using cesium. For final exam question may be asked from link. For word file submission 5-10 lines description in your own word and 1 simple map.

3- d3js (https://d3js.org/ ) is a JavaScript library for manipulating documents based on data. D3 helps you bring data to life using HTML, SVG, and CSS. D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation. Explore examples page (https://observablehq.com/@d3/gallery ) and create 1 similar map or visualization (spatial in nature) using d3js. Submission 5-10 lines description with 1 map.

**Learning Objective:**

- Basic Knowledge of Kepler Basic knowledge of CesiumJS Basic knowledge of d3js

**How to Perform:**

Using any sample data generate graphics as mentioned in links (Task details)

**Tools for Project:**

- Kepler CesiumJS D3JS

**Submission Guidelines:** 3-5 pages PDF file with proper headings. **Assignment must be plagiarism free.**