# **Project 1: 3D Solar System**

For this project, I was inspired by [Nasa’s website](https://science.nasa.gov/mission/webb/webb-3d/). Many libraries were used to help with the project for css and javascript.

# **Three.js**

Three.js is used for rendering 3D models on the website using WebGL under the hood. 3D models of Sun and all the planets were designed in blender and then imported using GLTF format so that all the textures are included.

**Installation**: Installed using NPM (node package manager).

import \* as THREE from "three";

# **Bootstrap**

Bootstrap 5 was used for many elements in the website such as:

* **Navbar**: The top part of the page has a bootstrap navbar.
* **Button and Dropdown**: The list of planets in the navbar is nested inside the button element which also has a dropdown to show all the planets.
* **Card**: The card element was used to show the image and description of the planet.
* **Tooltip**: Tooltip is used to give users more detail about each of the feature.

**Installation**: Installed using CDN and including the links in the head section of the HTML.

<link

      href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"

      rel="stylesheet"

      integrity="sha384-QWTKZyjpPEjISv5WaRU9OFeRpok6YctnYmDr5pNlyT2bRjXh0JMhjY6hW+ALEwIH"

      crossorigin="anonymous"

    />

    <script

      src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"

      integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDzOxhy9GkcIdslK1eN7N6jIeHz"

      crossorigin="anonymous"

    ></script>

# **TailwindCSS**

Tailwind was used because of the utility classes is provides. It is similar to bootstrap in some sense but also allows for much more customization.

**Installation**: Installed using npm and configuring the tailwind.config.js file.

/\*\* @type {import('tailwindcss').Config} \*/

module.exports = {

  content: ["./src/index.html"],

  theme: {

    extend: {},

  },

  plugins: [],

};

It is then imported in the styles.css to make use of the utility classes.

@tailwind base;

@tailwind components;

@tailwind utilities;

# **CSSGram**

CSSGram was used to add Instagram-like filter to the image of the planet.

**Installation**: Installed using CDN and including the links in the head section of the HTML.

<link

      rel="stylesheet"

      href="https://cdnjs.cloudflare.com/ajax/libs/cssgram/0.1.10/cssgram.min.css"

/>

# **CSSLoaders**

CSSLoaders was used for the loading screen till the 3D models are loaded.

**Installation**: CSSLoaders has a [website](https://cssloaders.github.io/) where you can copy the html and css code directly. It does not need any other dependencies.

# **GSAP**

GSAP is used to add animations to the website as it is very easy and powerful to use.

**Installation**: Installed using npm and then imported in the javascript file. The addon needed to load the 3D models need to be imported separately.

import \* as THREE from "three";

import { GLTFLoader } from "three/addons/loaders/GLTFLoader.js";

# **Google Fonts**

Roboto was used as the font of choice for this project.

**Installation**: Installed using CDN and including the links in the head section of the HTML. It was then used in the css file to change font across the website.

<link rel="preconnect" href="https://fonts.googleapis.com" />

    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />

    <link

      href="https://fonts.googleapis.com/css2?family=Roboto&display=swap"

      rel="stylesheet"

    />

body {

  font-family: "Roboto", sans-serif;

}