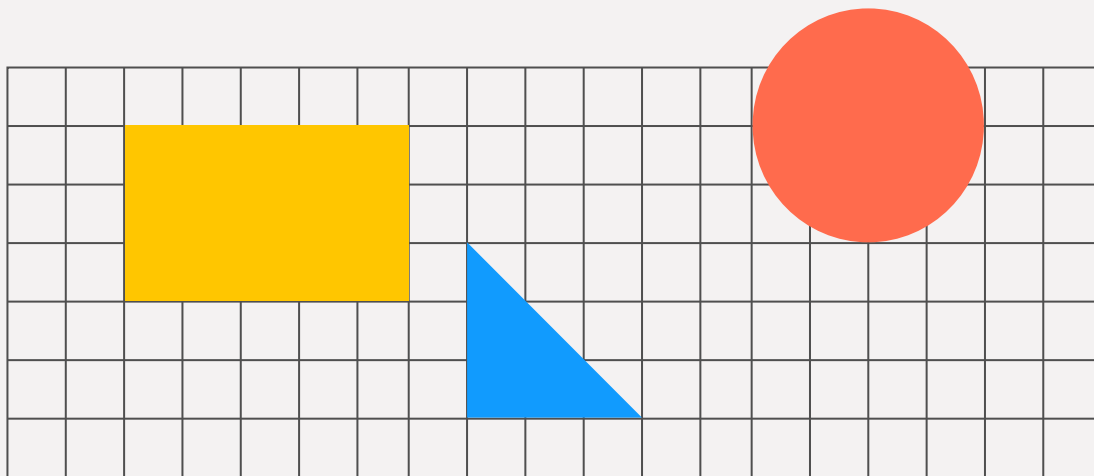
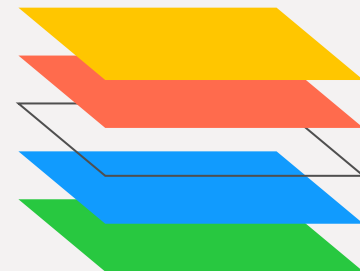


# 3D geospatial data visualization with Python and Cesiumjs

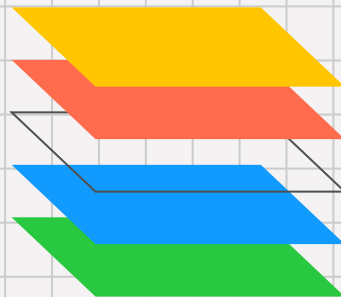


Nompumelelo  
Mtsweni

03 December 2024

# Outline

1. **Introduction**
2. **What we will be building (video)**
3. **Data Processing**
4. **Cesium API key - account creation**
5. **CesiumJS on code with processed data**
6. **Deploy**

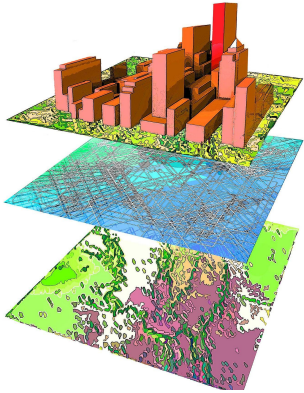


# Learning Outcomes

## Outline

1. **Understanding of 3D geo-data**
2. **Understanding of how to use python for data processing**
3. **Visualizing processed geospatial data in CesiumJS**
4. **Deploying visualized data**

# 3D geospatial visuali...



digital information that represents the Earth's features, structures, and terrain in three dimensions, combining location (geographic coordinates) with height or depth



3D Geodata

>> provides a realistic and accurate representation of the world and enables better decision making in fields concerned with earth surfaces like construction and urban planning.

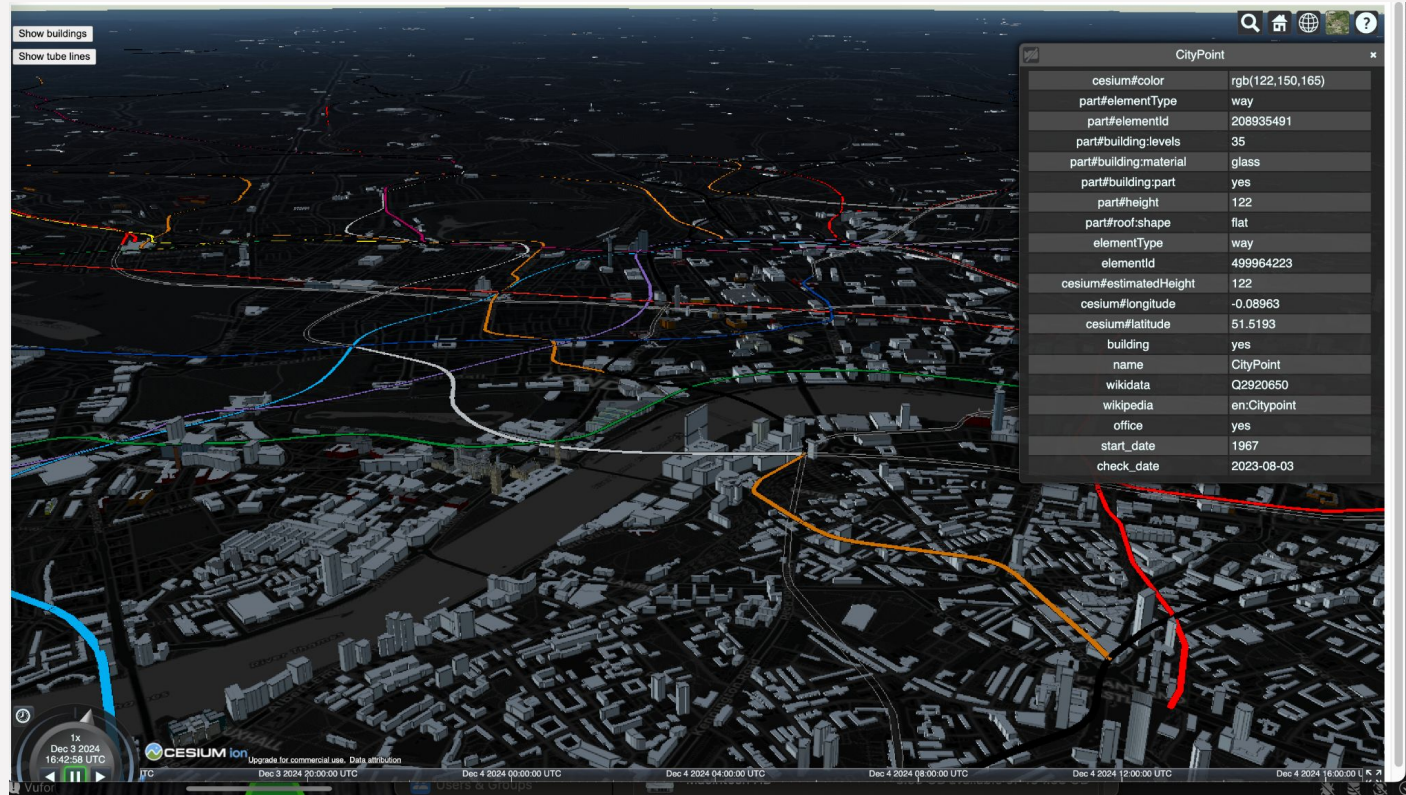
>> ability to model real-world environments in three dimensions enhances spatial understanding, allowing for more effective design and predictive simulations.

# Project: 3D GeoData Project in South Africa

- News 24
- Delta scan
- Truth first

<https://preview.shorthand.com/cUZ8U8XOJH8UQKVp>

# What are we going to build?



Acknowledge: <https://urschrei.github.io/hovertube/> (Stephen - climate researcher ) for data and project inspiration



Reliable  
Internet  
connection



Python  
Jupyter  
notebook



Cesium ion  
account



VSCode-  
Datasets to  
visualize

<https://colab.research.google.com/>

Python in a cloud based Jupyter notebook

FOR DATA PROCESSING ONLY

Possible to explore another time:

<https://mapwidget.gishub.org/examples/cesium/>



▶ Name	Department	Course Number	Section	Time	Location	DATE

Sign up for cesium account

Grab the access token

# Dataset

<https://colab.research.google.com/drive/1EtbhS2N8gjj-UdxJ3P6nn791ZWDYkmcN?usp=sharing>

Cesiumjs in  
code

# AR Indoor navigation app for Android and iOS



# Learning Outcomes

## Outline

1. **Understanding of 3D geodata**
2. **Understanding how to use python for 3D geodata in cesium.**
3. **Confidence in visualizing geospatial data**

# Contact Me

## Cesium certification:

<https://cesium.com/blog/2023/10/23/nompumelelo-mtsweni-becomes-cesium-certified-developer/>



## Email

lelonompumelelo@gmail.com

## Linkedin

Nompumelelo

## Github

elolelo2024