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R E P O R T P R E S E N T A T I O N

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Team ID : AG28



6371725153



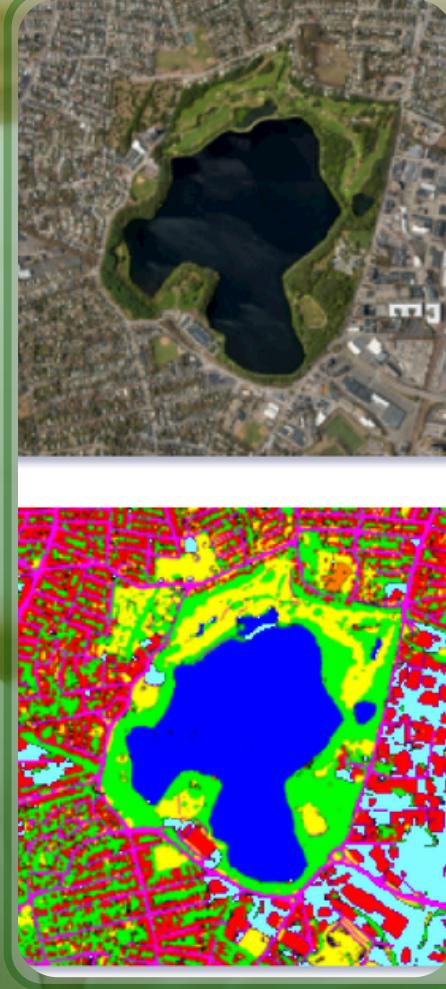
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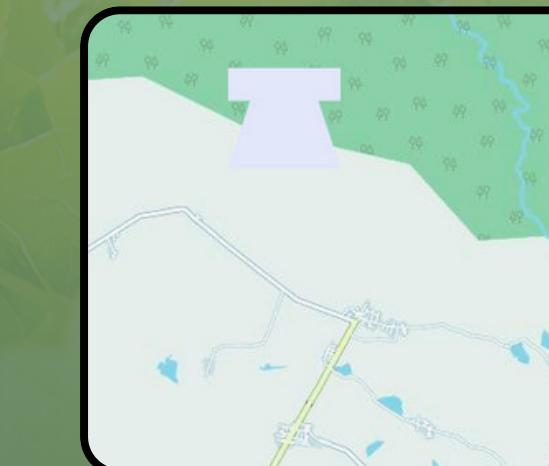
**API calls to
get data**

VLMs

**VISION
LANGUAGE
MODELS
(VLMs)**



PRE



POST

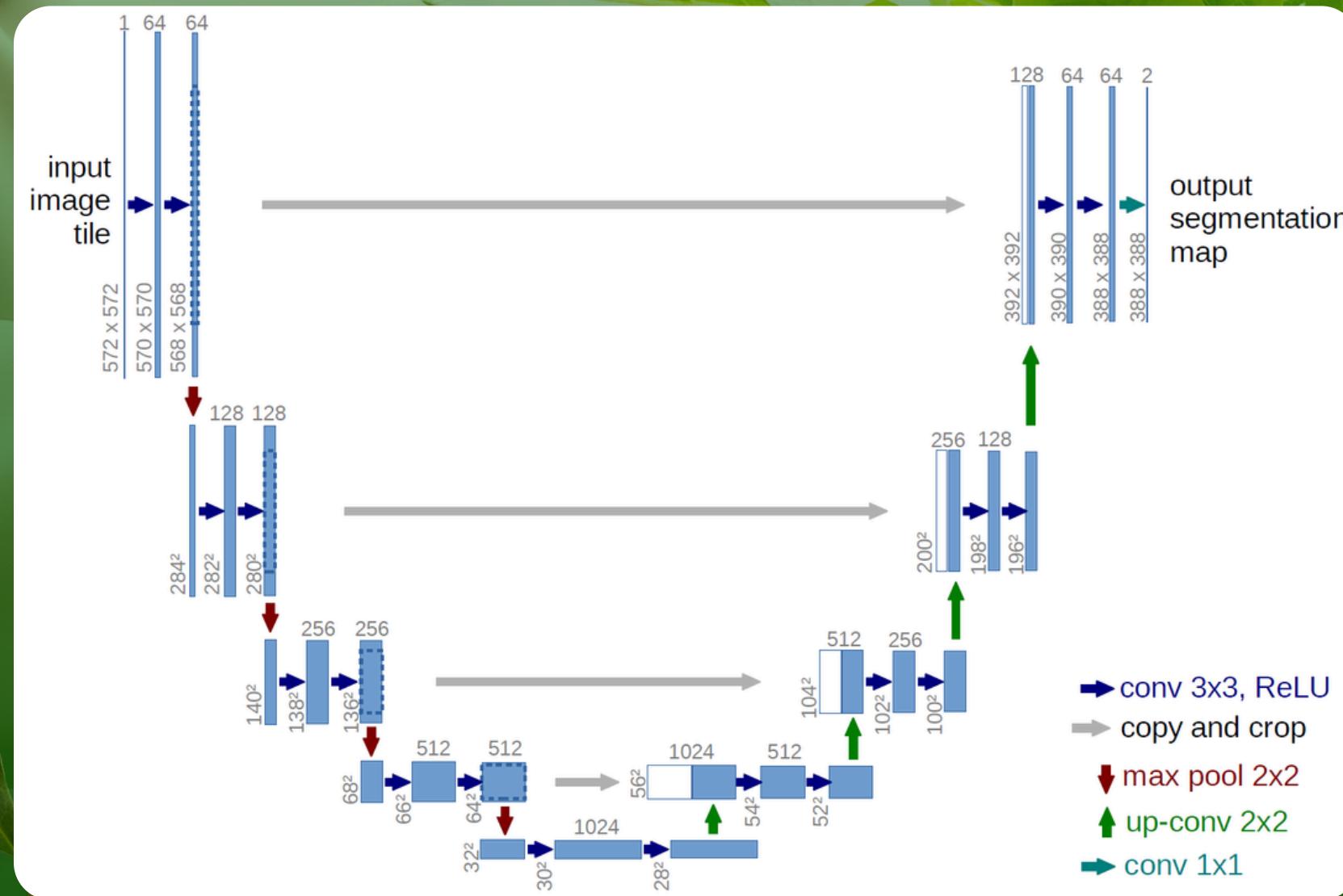


Comparison of pre and post Urbanization



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U-Net is a deep learning architecture designed for image segmentation, consisting of an encoder that captures context and a decoder that enables precise localization. It uses skip connections between the encoder and decoder to retain fine-grained spatial information, making it highly effective for tasks like medical image segmentation.



API CALL TO GET DATA

An API call in Python typically involves using the `requests` library to send a GET request to an API endpoint. The request may include parameters and headers for authentication. The server responds with data, usually in JSON format, which can be accessed and processed from the response object.



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VLM

VLMs (Vision-Language Models) are deep learning models that process both visual and textual data to perform tasks like image captioning and visual question answering. Trained on image-text pairs, they learn the relationships between visual features and textual descriptions, enabling more context-aware outputs in tasks requiring both vision and language understanding.



Model Architecture

We are taking the pre and post urbanization image maps along with the name of the place as input from the user. The api will call a request to a server to get data as per the place specified by the user. The api will return the climate details of the place like temperature, humidity, precipitation, etc. Then the VLM takes these features along with the images and will calculate a Biodiversity Risk Score. Then according to the score produced, the LLM will give sustainable recommendations to get minimum impact on biodiversity.



LLMs

LLMs (Large Language Models) are deep learning models trained on vast text data to understand and generate human language. Using transformer architecture, they perform tasks like text generation, translation, and summarization by capturing complex linguistic patterns and context. LLMs are pre-trained on large corpora and fine-tuned for specific tasks, enabling them to produce coherent and contextually relevant text.

THANK YOU

REPORT PRESENTATION

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