



## Vessel Air-Draught Detection System

## Project description

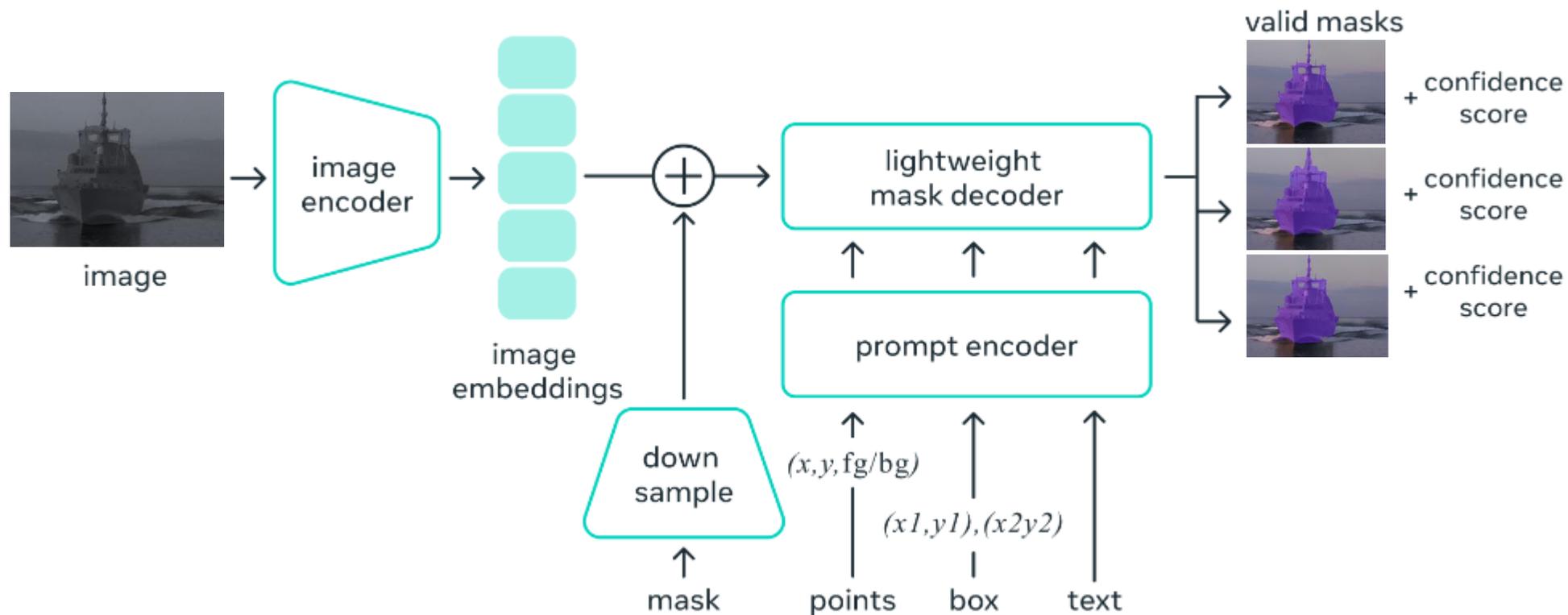
This project is aimed at enhancing the existing survey proven vessel air-draught measurement system by adding an AI-enabled automation alternative. The AI module is adopted to detect the highest point and waterline of vessel in pixel level from images.

The main potential challenge faced in the current system was the inevitable inherent human error in the manual process of determining the highest point and waterline of the vessels, in particularly under various weather conditions resulting deviation in images used in the manual measurement process. The AI-enabled module would provide an alternative in verifying the current manual measurement, contributing to the safety of marine control.

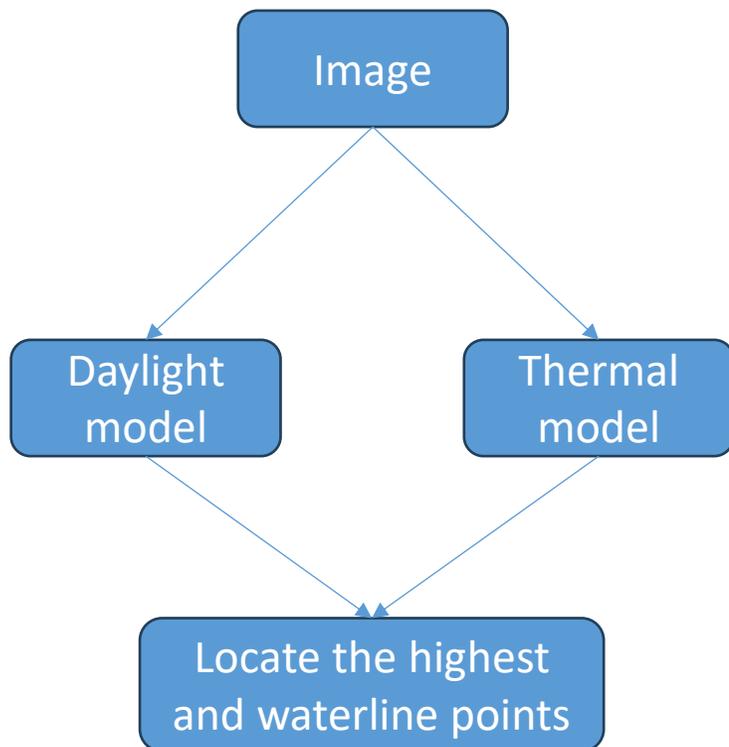
# Deliverables

- Fully integrated AI detection module
- High model accuracy for day and night vessel detection
- UI and user management
- Detection data and system analysis
- Issue logs and anomaly alert

# Methodology - Image segmentation



## Locate the highest and waterline points



Based on the two models trained for daylight and thermal images, with the vessel segmentation mask, locate:

- Highest point: Highest point of identified vessel in pixel value
- Waterline: coordinates perpendicular to the highest point.



Air draught



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