
arodek
Adding Value
AI-HACKATHON
Poster/Banner-Text Detection
& Measurement API

What we do

Technology

At arodek we believe technology evolves everyday. Keeping that evolution in mind, the technology solutions that we design and offer, help you improve performance significantly. We pioneer in SAP, Salesforce, etc.

Consulting

Our Consulting services fits any nature of business as we strive to focus on our clients' critical issues, strengths, opportunities, strategy building and marketing.

Products

Our in-house products are easy to understand and possesses top notch usability.

- aroCRM
- aroSRM/ Vendor Management Portal

Services

Our cost-effective and highly responsive services range from traditional methods of Application Development to newer players of the market like Block Chain and IoT

Scope of Work

Task details for AI - Hackathon

Objective

Develop an API that:

Accepts an original image link and a predefined set of text/logos.
Detects whether the image contains a poster or wall section that includes any of the given text or logos.
If detected, calculates and returns the real-world dimensions (width and height) of the identified poster or wall area in centimeters.

Scope

1. Functional Requirements

Image Input: Accept a URL pointing to the image to be analyzed.
Text/Logo Input: Accept one or more text strings or image logos for comparison.
Detection:
Identify regions in the image that resemble posters or walls.
Validate whether the specified text/logo is present within those regions using OCR/logo recognition.
Dimension Calculation:
Calculate the real-world dimensions (in cm) of the detected area using image processing techniques.

Scope of Work

Task details for AI - Hackathon

Response:

- Boolean status indicating presence of valid poster/wall with text/logo.
- Bounding box coordinates (x, y, width, height in pixels) for the poster or wall which content the text/logo in the Image.
- Real-world dimensions in centimeters.
- Confidence score (for detection accuracy).

2. Non-Functional Requirements

- ❑ Accuracy: High OCR/logo detection accuracy (>90%).
- ❑ Performance: Response time < 5 seconds for standard images (<5 MB).
- ❑ Security: Input sanitization and secure image fetching.
- ❑ Scalability: Should handle up to 10 concurrent requests.

Example

Input Image as provided above, Text Passed as “DYTRON” It should return the exact measurement in CM for poster

Input Image as provided above, Text Passed as “RiCE” It should return the exact measurement in CM for poster

API Design

API Request and Response

Example

POST /validate-image

Input:

{ "imageUrl": "https://arodek.com/image.jpg", "texts": [“arodek”, "Campaign 2025"], "logos": ["https://example.com/logo.png"] (optional) }

Output:

{ "containsPoster": true, "boundingBox": { "x": 45, "y": 60, "width": 300, "height": 500 }, "dimensionsCm": { "width": 60.0, "height": 100.0 }, "confidence": 0.94 }

Do's

1. Use Your Own Captured Images
If possible, capture your own roadside images from bridges or elevated roads.
This gives you full rights to use the image for training or deployment.

2. Use Open-Source Tools
Use open-source libraries like OpenCV, Detectron2, YOLOv8, or TensorFlow for detection.
Use only free plugins or models with permissive licenses (e.g., MIT, Apache 2.0).

3. Cite Sources (if Attribution Required)
Some images might require attribution even if free — check licensing clearly.
Example: "Image by XYZ from Wikimedia Commons (CC-BY-SA 4.0)"

Don’ts

1. Don’t Use Google Images or Social Media Images
Most images found via Google search or social media are copyrighted unless explicitly stated otherwise.

2. Don’t Use Paid APIs or SaaS Plugins
Avoid services like AWS Rekognition, Google Vision, or paid plugins if your constraints forbid it.

3. Don’t Assume Open Internet = Free Use
Just because an image is publicly accessible does not mean you can use it commercially.

4. Don’t Ignore Resolution and Clarity
For ML/AI purposes, low-resolution or blurry images will hinder your model’s performance.
Make sure poster areas are visible and legible.

5. Don’t Include Human Faces Without Consent
Especially in India, publishing images with identifiable people can raise legal issues unless faces are blurred or consent is given.

6. Use plan Python or Django, Docker should not be used in the project.

Timeline

TRACK	SCOPE
Timeline	
Implementation Timeline	4th July 2025

Assumptions & Exclusions

- Any activity which is not mentioned in scope section would be considered out of scope
- Data preparation and validation will be in scope of Participate
- Any type of hardware if required will be out of the scope.
- Input Image should have sufficient resolution and clarity
- Poster or Wall photo can be captured from any point or distance
- Poster images can be angled imaged.

Out of Scope

- Physical installation of calibration objects in images.
- Real-time video feed analysis (only static images).


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Thank you !
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