TracerTag

NOI Hackathon
Summer Edition

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02 - 03
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Lido Schenna,
Bolzano

GRUPPO FOS
soluzioni ad alta tecnologia

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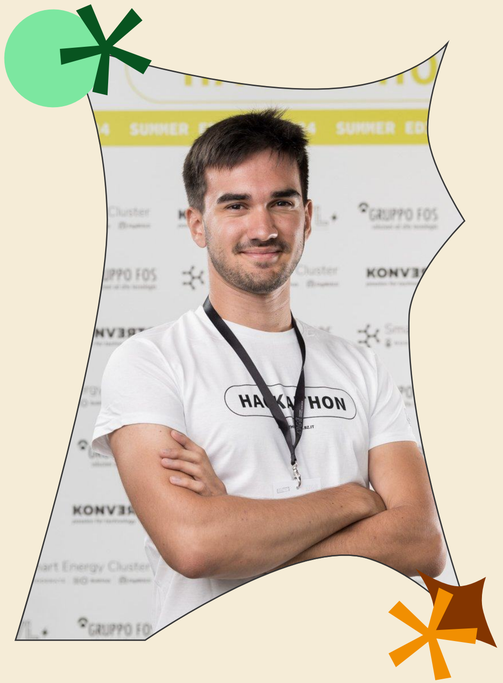
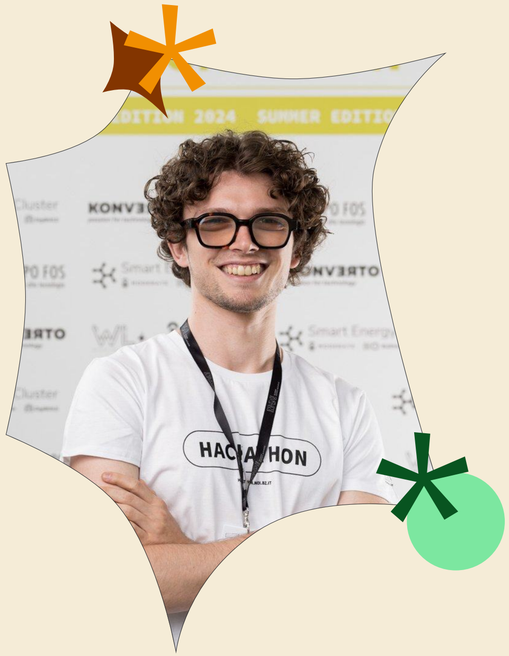
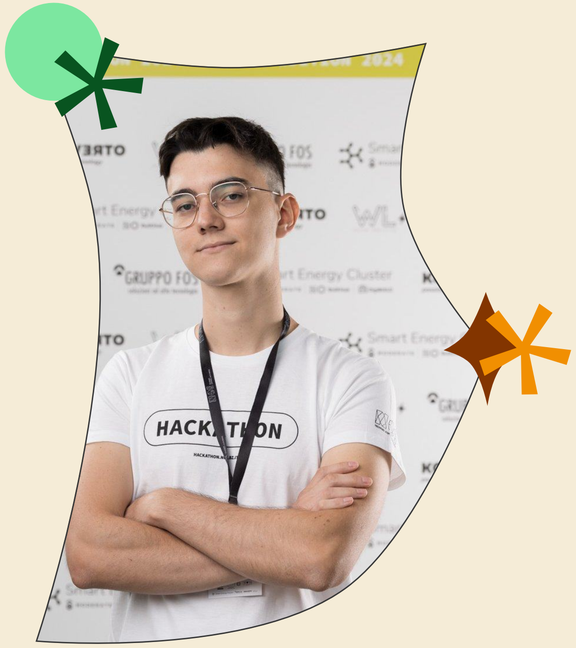


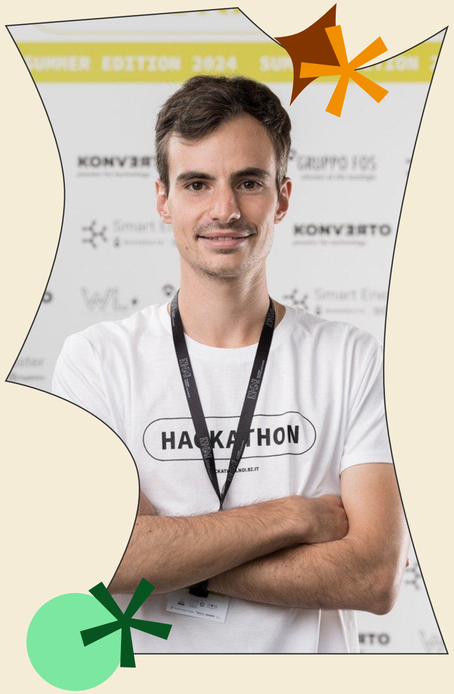
Giacomo Ferretti
Milano



Oliviero Petrucci
Milano



Alessandro Taufer
Trento



Davide Sbetti
Bolzano

Agenda

- Project Overview
- Executive flow
- Back-end
- Front-end
- Demo

Project overview

Our project develops advanced software for object recognition and edge tracking within images. Using specific algorithms, the system accurately identifies object contours, allowing precise segmentation and detailed analysis of their shapes.

This tool is designed for applications across various industries, providing a powerful solution for visual interpretation and processing.

Excecutive flow

Image Upload

Image analysis employs advanced algorithms to identify and track object edges in a visual scene, crucial for accurately interpreting the structures and shapes of objects in the image.

1*

Edge Recognition

Edge recognition uses algorithms to detect pixel intensity transitions that define object boundaries in an image, crucial for accurately outlining object shapes and structures in the visual scene.

2*

Select & Export

Selection and export enable the identification and isolation of specific objects or regions within an image for detailed analysis. These elements can then be exported in various formats for external use.

3*

Back-end

Labeling

Object recognition is the process by which a computer vision system identifies and classifies objects in an image or video stream.

→ The system detects and differentiates between object types, assigning specific labels based on recognized visual features.

Segmentation

Pinpointing is the process of determining the exact spatial coordinates of an object or region within an image.

→ The system identifies both the presence and precise position of an object within the visual scene, enabling accurate interactions.

Edge definition

Edge tracking involves identifying and accurately delineating the boundaries of an object within a visual scene.

→ The system detects pixel intensity transitions that signal object contours, enabling precise tracking of the object's shape and structure.

SVG creation

Creating SVG is crucial for vector graphics, as it describes the shapes and contours of objects in images.

→ The image's visual data is converted into a scalable vector format, preserving quality and sharpness at any zoom level.

Front-end

Sending the image

The image is uploaded by the user and sent to the backend, where it is processed using advanced algorithms for object and edge recognition.

Receiving the results

The results, processed by the backend, containing the contours and detailed information of the objects, are received and displayed for further analysis and action by the user.

Object selection

Recognized objects can be selected by the user for more detailed analysis or to perform specific operations such as export.

Export

Selected objects can be exported to SVG and JSON formats, allowing for vector graphics representation and structured data description for further use.

Demo

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Thank you

TEST → http://ec2-15-160-111-224.eu-south-1.compute.amazonaws.com/

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