

# NOI Hackathon Summer Edition 2025

## Gruppo FOS Challenge

Lido Schenna, Aug 1st-2nd, 2025



# Gruppo FOS - People



**Orneda Lecini - Mentor**

[orneda.lecini@fos.it](mailto:orneda.lecini@fos.it)



**Giovanni Giannotta - Juror**

[giovanni.giannotta@fos.it](mailto:giovanni.giannotta@fos.it)



**Gianluca Lorusso - Mentor**

[gianluca.lorusso@fos.it](mailto:gianluca.lorusso@fos.it)

# Gruppo FOS - Overview



# Gruppo FOS - Challenge

## Introduction (1)

Use/tune an **AI model** for forecasting the **growth of a plant**. Given some (textual) input **environmental parameters** (e.g. temperature, humidity, acidity of the soil, pressure, brightness, nutrients, water, carbon dioxide, etc.) and optionally a baseline **picture**, the model should output a **description** and a **graphical depiction** (a picture or video) of the plant (e.g. tomato, basil, mint, lettuce, rosemary, strawberry).

E.g. assuming my tomato plant [picture] is in its ideal environmental conditions, what would occur if temperature is on average 3°C higher for a whole week?

→ Output: [new description after 1W], [picture after 1W]

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## Introduction (2)

The model should be able to accept “**strange**” reasoning **inputs**.

E.g. What happens if I water a strawberry plant with Coca Cola for a week, given an average temperature of the soil of 15°C and 30% relative humidity, three months after having planted the seeds?

The model should be able to graphically depict the evolution of the plant in the given environmental context over time, starting from a **baseline picture**.

E.g. a video or series of photos of a basil plant growing at a constant 25°C over a week, a month, etc.

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## Bonus

A nice to have would be the ability to **control** the input parameters to obtain an image in **real time** from the portal.

E.g. a live picture of a plant with sliders to dynamically adjust temperature, humidity, etc.



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## Requirements

- You should show the model working through some **portal** (e.g. app, web app, Telegram bot, etc.).
- A simple **textual description** of the plant's state is **\*not\*** enough. There must **\*also\*** be a **graphical depiction** (e.g. photo or video). Glyphs or cartoon-like imagery are **\*not\*** considered valid. Pictures or videos must resemble reality.
- The final outcome shall contain **\*exclusively\*** **open-source** and **free** software.

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## Tips

- Feel free to use online AI models or APIs.
- Feel free to choose any language, stack or framework.
- Don't waste time on account management, logins, etc.
- Don't waste time on making the GUI perfect. It's not the main focus.
- Think twice, code once.

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## Evaluation Criteria



- Accuracy and speed of the AI model;
- Ease of use of the portal;
- Lightness of the AI model (if run locally);
- “Open-source-ness”.

Remember:

- We value functional code over fancy prototypes.
- We only consider what was uploaded on the Git;
- Please provide us with a way to test your solution “live”, without tinkering.

# Thank you!

## Happy Hackathon by **Gruppo FOS**

Interested in an internship?  
[giovanni.giannotta@fos.it](mailto:giovanni.giannotta@fos.it)

