

FREISA-GPT

The B-AROL-O Team Strikes Back

Presentation by [Gianpaolo Macario](#) to

[Linux Day Torino, 2025-10-25](#)

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Agenda

1. Who is the B-AROL-O Team?
2. It all started with #ARNEIS
3. Then we made #FREISA
4. Main achievements in 2025: FREISA-GPT
5. What next?

Who is the B-AROL-O Team?

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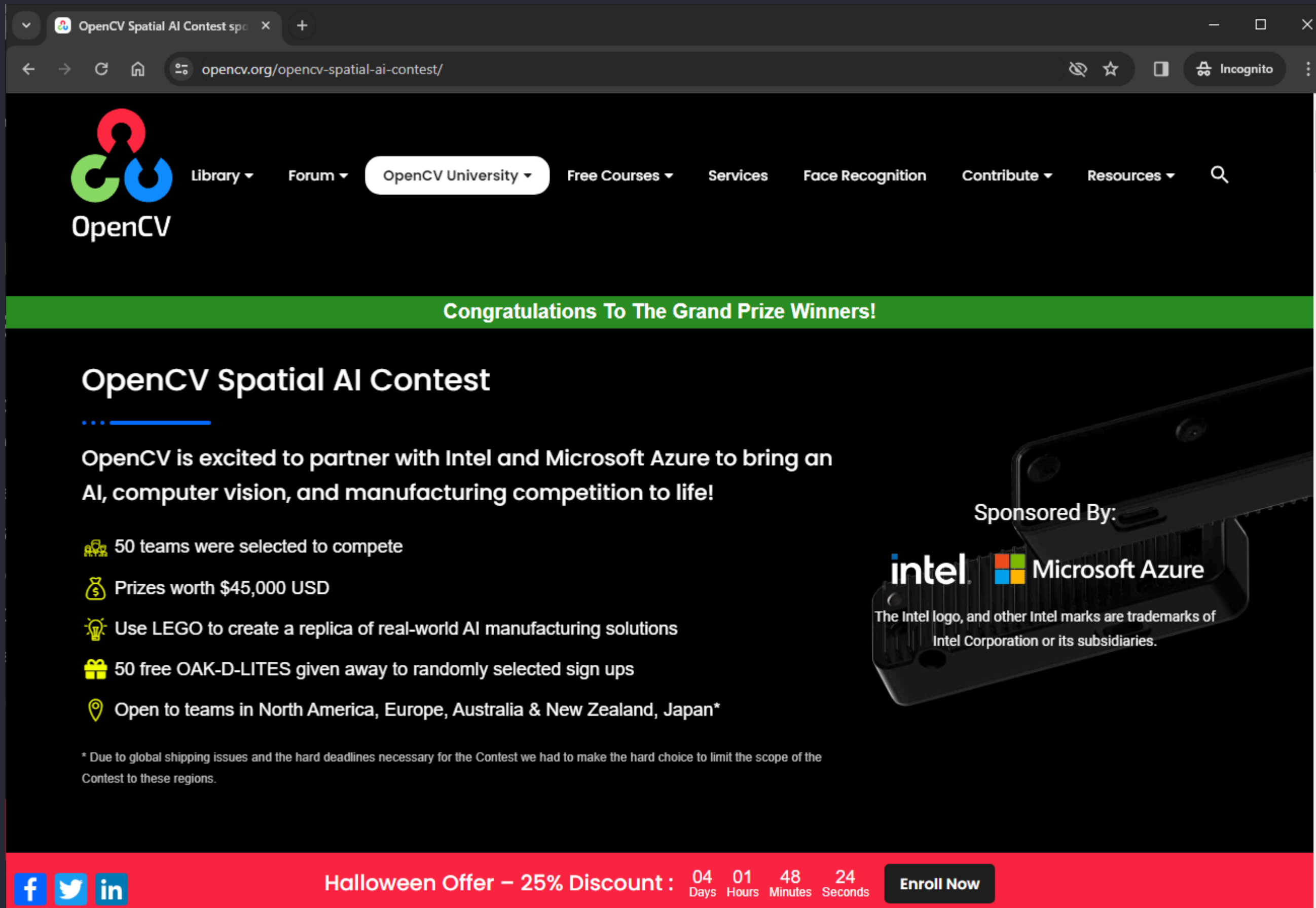
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TL;DR: We chose an iconic name which embeds our Italian origins as well as our industry experience

Everything started in 2022



The screenshot shows a web browser window with the URL `opencv.org/opencv-spatial-ai-contest/`. The page features the OpenCV logo and a navigation bar with links to Library, Forum, OpenCV University, Free Courses, Services, Face Recognition, Contribute, and Resources. A green banner reads "Congratulations To The Grand Prize Winners!". Below this, the "OpenCV Spatial AI Contest" section is highlighted with a blue underline. The text states: "OpenCV is excited to partner with Intel and Microsoft Azure to bring an AI, computer vision, and manufacturing competition to life!". A list of contest details follows: 50 teams selected, prizes worth \$45,000 USD, use of LEGO for AI manufacturing solutions, 50 free OAK-D-LITES given away, and eligibility for teams in North America, Europe, Australia, and New Zealand, Japan*. To the right, a "Sponsored By:" section displays the Intel and Microsoft Azure logos, with a disclaimer about Intel trademarks. At the bottom, a red banner promotes a "Halloween Offer – 25% Discount" with a countdown timer (04 Days, 01 Hours, 48 Minutes, 24 Seconds) and an "Enroll Now" button. Social media icons for Facebook, Twitter, and LinkedIn are also present.

OpenCV Spatial AI Contest

OpenCV is excited to partner with Intel and Microsoft Azure to bring an AI, computer vision, and manufacturing competition to life!

- 50 teams were selected to compete
- Prizes worth \$45,000 USD
- Use LEGO to create a replica of real-world AI manufacturing solutions
- 50 free OAK-D-LITES given away to randomly selected sign ups
- Open to teams in North America, Europe, Australia & New Zealand, Japan*

* Due to global shipping issues and the hard deadlines necessary for the Contest we had to make the hard choice to limit the scope of the Contest to these regions.

Sponsored By:

intel Microsoft Azure

The Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries.

Halloween Offer – 25% Discount : 04 Days 01 Hours 48 Minutes 24 Seconds [Enroll Now](#)

...when we made #ARNEIS

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Welcome to the ARNEIS Project! x +

← → ↻ 🏠 🔒 arneis.readthedocs.io/en/latest/ 🔗 ☆ ⚙️ 📱 👤 ⋮

ARCHITECTURE

ARNEIS - Specification

ARNEIS - System Architecture

ARNEIS - Software Architecture

HOWTOS

HOWTO Configure arneis.readthedocs.io

HOWTO Create a landing page on Netlify

HOWTO Configure Google Analytics

HOWTO Install Eclipse Capella

HOWTO Mermaid utilization and code examples

HOWTO Use rclone with Cubbit DS3

HOWTO Install DepthAI on a Raspberry

📖 Read the Docs

v: latest ▾

The **ARNEIS** (short for **A**utomated **R**ecognizer, **N**etwork - **E**nabled, **I**tem **S**orter) is the winner of the Popular Vote of the **OpenCV Spatial AI Contest** sponsored by **Intel®** and **Microsoft Azure**.

This is ARNEIS

a ARNEIS submission Video



<https://arneis.readthedocs.io>

Guarda su  YouTube



Copia link



SCAN ME



ARNEIS in a nutshell

We accepted a new challenge in 2023

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The screenshot shows a web browser window with the URL `hackster.io/contests/opencv-ai-competition-2023`. The page features the Hackster.io logo and navigation links for Projects, Channels, News, Contests, Events, and Videos. A search bar and a 'Sign up' button are also visible. The main content area is titled 'OpenCV AI Competition 2023' and includes the text 'with Khadas, OpenCV and Seeed Studio'. Below this, it states 'An international open source competition on computer vision & AI by OpenCV Foundation. Win up to \$48,000+ in prizes!'. A prominent blue button labeled 'Register as a participant' is centered on the page. At the bottom, there is a banner with the competition title and logos for OpenCV, Khadas, and Seeed Studio, set against a background of blue and white geometric patterns.

OpenCV AI Competition 2023

with **Khadas**, **OpenCV** and **Seeed Studio**

An international open source competition on computer vision & AI by OpenCV Foundation.
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[Register as a participant](#)

OpenCV AI Competition 2023

OpenCV KHADAS seeed studio

This time we made #FREISA

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The screenshot shows a web browser window displaying the GitHub repository page for **B-AROL-O / FREISA**. The browser's address bar shows the URL `github.com/B-AROL-O/FREISA/blob/main/README.md`. The repository is public and has 13 stars and 1 fork. The main navigation bar includes links for Product, Solutions, Resources, Open Source, Enterprise, and Pricing, along with search, sign in, and sign up buttons. The repository's main navigation bar includes links for Code, Issues (8), Pull requests (2), Discussions, Actions, Projects, Security, and Insights. The file tree shows the `main` branch with the `FREISA / README.md` file selected. A commit by `gmacario` is visible, titled "ChatGPT Robot Kit is also a KS 'Project We Love'", with a commit hash of `bfa9bb3` and a date of "last month". The file preview shows the title **Four-legged Robot Ensuring Intelligent Sprinkler Automation** and a description: "Project FREISA, an acronym for 'Four-legged Robot Ensuring Intelligent Sprinkler Automation', continues the storyline of the B-AROL-O Team's saga." The file is 114 lines (64 loc) and 8.41 KB in size.

B-AROL-O / FREISA Public

Notifications Fork 1 Star 13

<> Code Issues 8 Pull requests 2 Discussions Actions Projects Security Insights

main FREISA / README.md Go to file

Expand file tree

`gmacario` ChatGPT Robot Kit is also a KS 'Project We Love' `bfa9bb3` · last month History

Preview Code Blame 114 lines (64 loc) · 8.41 KB Raw

Four-legged Robot Ensuring Intelligent Sprinkler Automation

`@baroloteam`

[Project FREISA](#), an acronym for "Four-legged Robot Ensuring Intelligent Sprinkler Automation", continues the storyline of the [B-AROL-O Team](#)'s saga.



9

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- Guests of [Hackster Impact Spotlights](#)

What did we do this year?

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The screenshot shows the OpenAI Open Model Hackathon page on the Devpost website. The browser address bar shows 'openai.devpost.com'. The page features a blue header with the 'DEVPOST' logo and navigation links: 'Join a hackathon', 'Host a hackathon', and 'Resources'. A search icon, 'Log in', and 'Sign up' button are also present. Below the header, the main banner reads 'Open Model Hackathon' and 'OpenAI', accompanied by logos for OpenAI, NVIDIA, and others. A navigation bar includes links for 'Overview', 'My projects', 'Participants (906)', 'Resources', 'Rules', 'Project gallery', 'Updates', and 'Discussions'. The main content area is titled 'OpenAI Open Model Hackathon' and describes the challenge: 'Build with gpt-oss, OpenAI's open weight reasoning models.' A prominent blue 'Join hackathon' button is displayed. To the right, a sidebar provides additional details: '36 more days to deadline' with a 'View schedule' link, the 'Deadline' of '12 set 2025 @ 2:00am GMT+2', and event details including 'Online', 'Public', '\$30,000 in cash', and '906 participants'. It also lists the organizer as 'OpenAI', managed by 'Devpost', and includes tags for 'IoT', 'Machine Learning/AI', and 'Robotic Process Automation'. A 'View full rules' link is located below the participation criteria.

DEVPOST Join a hackathon Host a hackathon Resources Log in Sign up

Open Model Hackathon

OpenAI

Overview My projects Participants (906) Resources Rules Project gallery Updates Discussions

OpenAI Open Model Hackathon

Build with gpt-oss, OpenAI's open weight reasoning models.

[Join hackathon](#)

Who can participate

- Above legal age of majority in country of residence
- Only specific countries/territories included

[View full rules](#)

36 more days to deadline [View schedule](#)

Deadline
12 set 2025 @ 2:00am GMT+2

Online Public

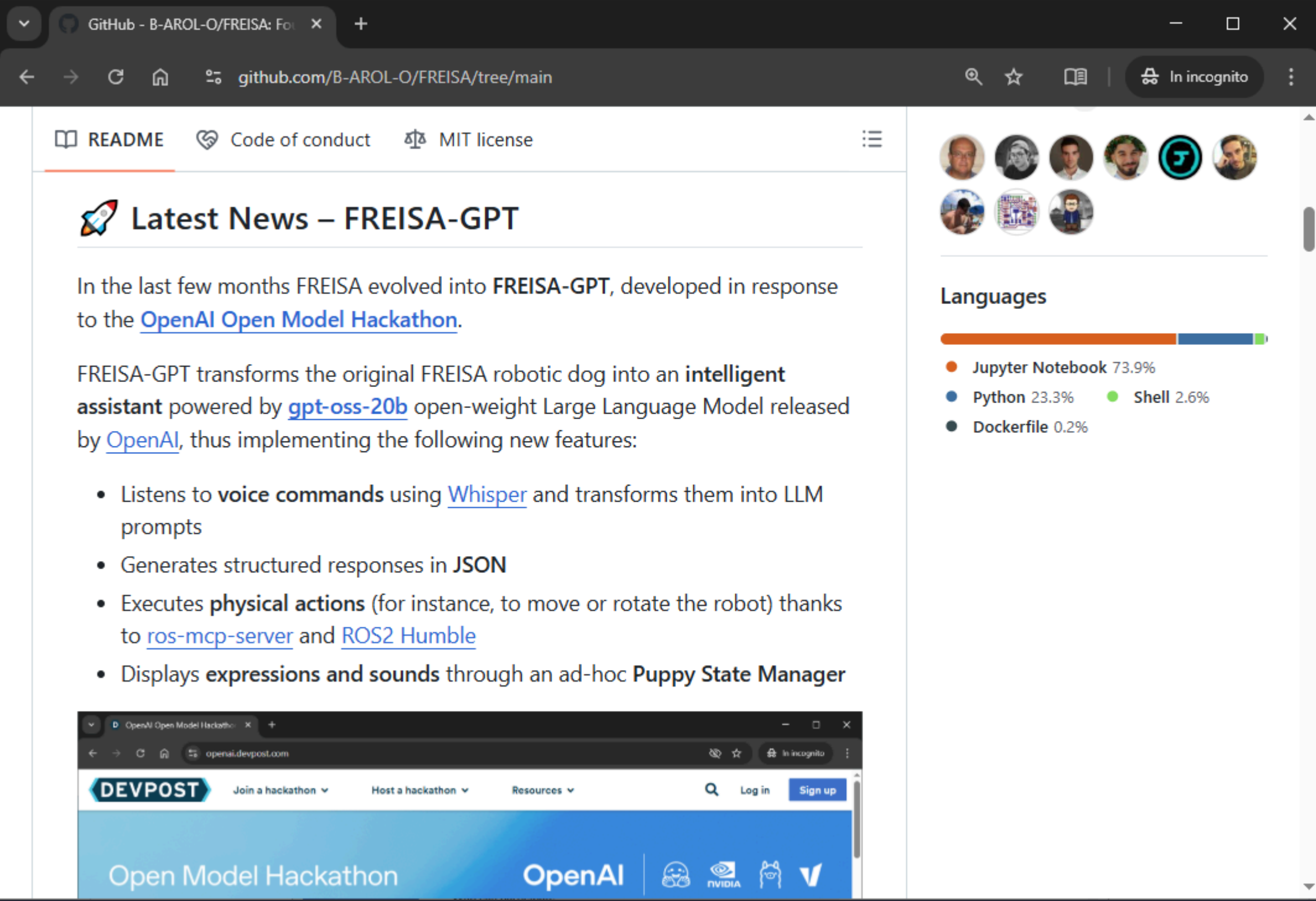
\$30,000 in cash **906 participants**

OpenAI

Managed by Devpost

IoT Machine Learning/AI Robotic Process Automation

Introducing FREISA-GPT



The screenshot shows the GitHub repository page for `B-AROL-O/FREISA`. The browser address bar shows `github.com/B-AROL-O/FREISA/tree/main`. The repository page includes a README, Code of conduct, and MIT license. The README is titled "Latest News – FREISA-GPT" and contains the following text:

In the last few months FREISA evolved into **FREISA-GPT**, developed in response to the [OpenAI Open Model Hackathon](#).

FREISA-GPT transforms the original FREISA robotic dog into an **intelligent assistant** powered by [gpt-oss-20b](#) open-weight Large Language Model released by [OpenAI](#), thus implementing the following new features:

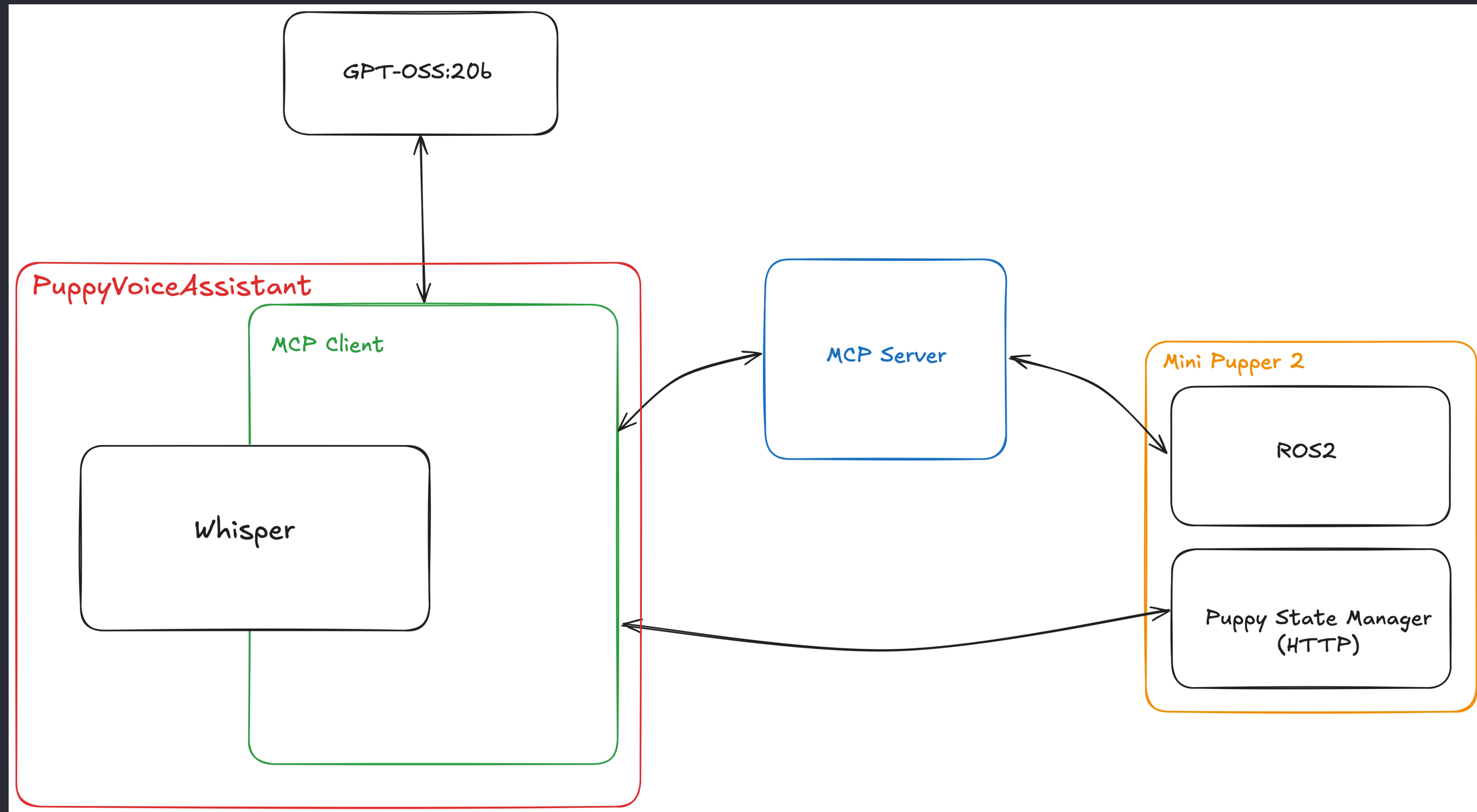
- Listens to **voice commands** using [Whisper](#) and transforms them into LLM prompts
- Generates structured responses in **JSON**
- Executes **physical actions** (for instance, to move or rotate the robot) thanks to [ros-mcp-server](#) and [ROS2 Humble](#)
- Displays **expressions and sounds** through an ad-hoc **Puppy State Manager**

Below the text, there is a screenshot of the OpenAI Open Model Hackathon website, showing the DevPost logo and the OpenAI logo.

On the right side of the repository page, there is a section titled "Languages" showing the following data:

Language	Percentage
Jupyter Notebook	73.9%
Python	23.3%
Shell	2.6%
Dockerfile	0.2%

FREISA-GPT: Architecture



You can find more details in the [Devpost writeup](#)

Do you want to play with FREISA-GPT?



Where will FREISA go next?

Where will FREISA go next?

We don't know yet...

Where will FREISA go next?

We don't know yet... But YOU can help!

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<https://github.com/B-AROL-O/FREISA/issues>

Let us keep in touch!



B-AROL-O TEAM



baroloteam



baroloteam



B-AROL-O



b-arol-o@solarma.it