B-AROL-O TEAM

ONE YEAR LATER

Presentation by Gianpaolo Macario to

Linux Day Torino, 2024-10-26

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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 2024
5. What next?

WHO IS THE B-AROL-O TEAM?

... just a group of friends who want to learn and have fun with Open Source!

WHY THE NAME “B-AROL-O”?

There are (at least) three reasons:

1. Most team members work (or worked) in AROL S.p.A., a leading Italian company specialized in packaging machinery for the Food and Beverage Industry

2. We are (or were) all based in Piedmont - a region of Italy well known for hosting many mechanical industries, as well as for its vineyards, wines and spirits

3. "Barolo" is a fine red wine made of grapes which are grown in a small area in Piedmont close to our hometown. It is well known and its bottles are exported all over the world

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

IT ALL STARTED WITH #ARNEIS

OpenCV Spatial AI Contest spc

opencv.org/opencv-spatial-ai-contest/

Incognito

OpenCV

Library | Forum | OpenCV University | Free Courses | Services | Face Recognition | Contribute | Resources

Congratulations To The Grand Prize Winners!

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

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Halloween Offer – 25% Discount : 04 Days 01 Hours 48 Minutes 24 Seconds Enroll Now

OK, SO WHAT IS #ARNEIS?

Welcome to the ARNEIS Project!

arneis.readthedocs.io/en/latest/

ARCHITECTURE

- ARNEIS - Specification
- ARNEIS - System Architecture
- ARNEIS - Software Architecture

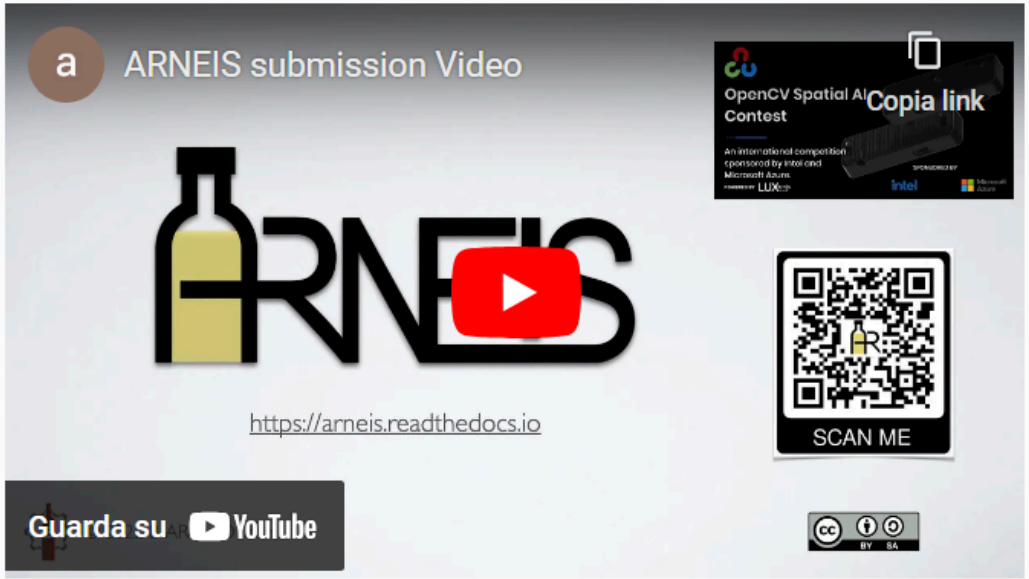
HOWTOS

- 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



ARNEIS in a nutshell

FAST FORWARD TO 2023

OpenCV AI Competition 2023 -

hackster.io/contests/opencv-ai-competition-2023

In incognito

hackster.io
AN AVNET COMMUNITY

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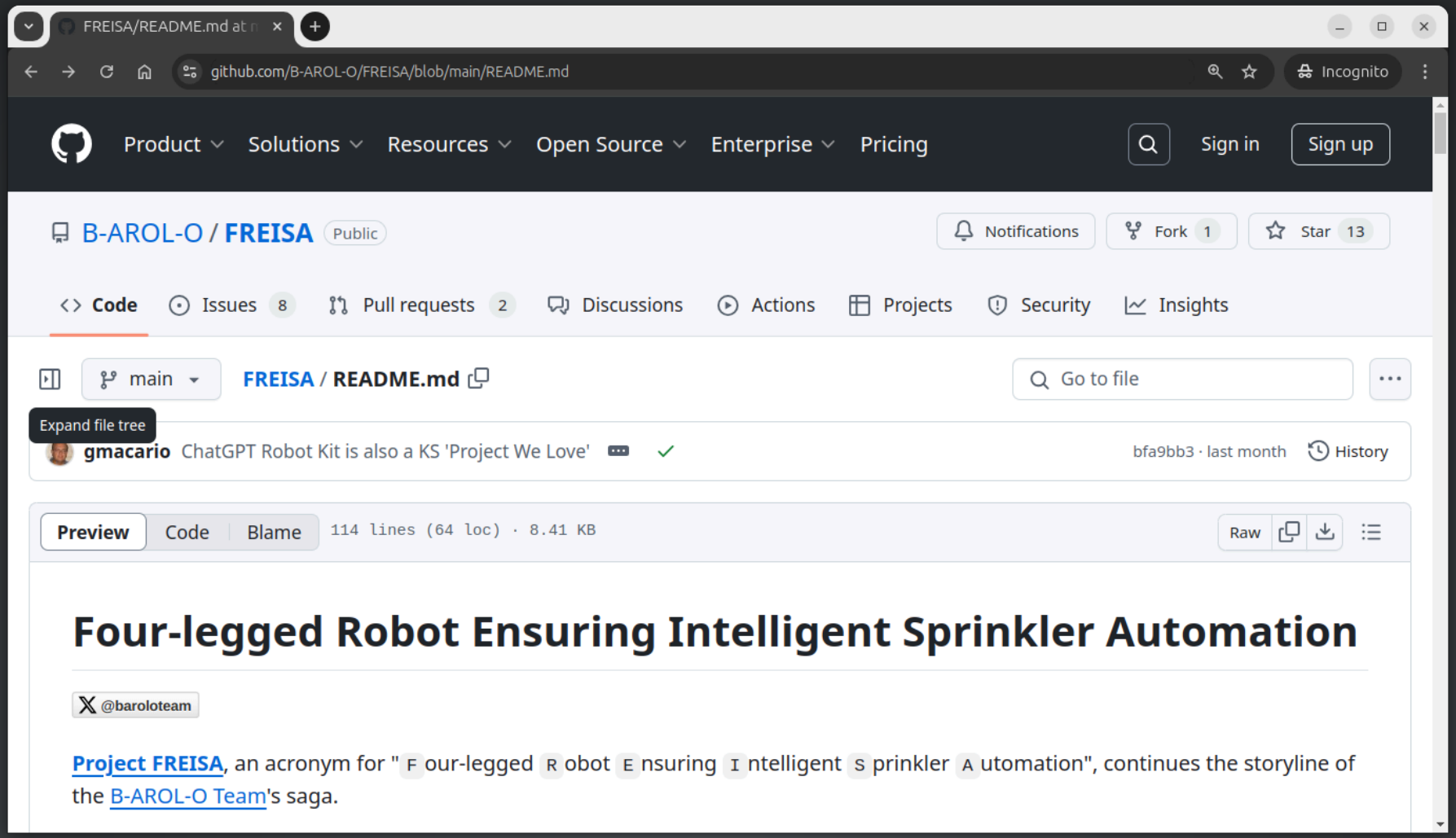
OpenCV AI Competition 2023

with Khadas, OpenCV and Seeed Studio

An international open source competition on computer vision & AI by OpenCV Foundation.
Win up to **$48,000+** in prizes!

Register as a participant

OUR RESPONSE: #FREISA



CHALLENGES TO OUR INITIAL IDEA

- Vine leaves commonly reach heights of over 40 cm above the ground
- Vineyard landscapes - particularly in Italy - are rugged and make life hard to a small quadruped robot
- Harvesting made us pivot to a tomato field instead of the vineyard we originally aimed for

ANYWAY, HERE IS WHAT WE SUBMITTED...

Overview
Things
Story
B-AROL-O Team Strikes Back
What is FREISA all about
FREISA System Architecture
MiniPupper 2
The puppy grows up
Computer Vision
Conclusions
How to stay in touch
Appendix 1: Acronyms
Appendix 2: Bibliography
Custom parts and enclosures
Code
Credits
Comments (0)

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Team B-AROL-O: Gianpaolo Macario, Gianluca Teti, Pietro d'Agostino, Davide Macario, Andrea Podo, Orso Eric
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Four-legged Robot Ensuring Intelligent Sprinkler Automation

FREISA, an acronym for "Four-legged Robot Ensuring Intelligent Sprinkler Automation, " continues the storyline of the B-AROL-O Team's saga

Intermediate · Full instructions provided · Over 3 days · 3,363

Ad

AWARDS

Ranked Prize: 1st Place
OpenCV AI Competition 2023

Finalist
OpenCV AI Competition 2023

Popular Vote - Finalist
OpenCV AI Competition 2023

RELATED CHANNELS AND TAGS

agriculture · computer vision · dog · fun · robotics

AND HERE ARE OPENCV AI COMPETITION 2023 RESULTS

OpenCV AI Competition

hackster.io/contests/opencv-ai-competition-2023

Incognito (2)

Categories: Ranked Prize | Finalist | Popular Vote - 1st Place | Popular Vote - 2nd Place | Popular Vote - 3rd Place | Popular Vote

Ranked Prize

1st place was awarded a Grand Prize Winner Sponsored by KHADAS ($7,472 value), 2nd place was awarded a 1st Runner-up ($5,472 value), and 3rd place was awarded a 2nd Runner-up ($4,472 value)

B-AROL-O

RANKED PRIZE: 1ST PLACE

Four-legged Robot Ensuring Intelligent Sprinkler Automation

Katelyn Gan

RANKED PRIZE: 2ND PLACE

OpenCV for Exoplanet Detection

Selin Alara Ornek

RANKED PRIZE: 3RD PLACE

IC4U - Robot Guide Dog for Visually Impaired People

B-AROL-0 TEAM ACHIEVEMENTS IN 2024

- Showcased in The MagPi Magazine - Issue 139
- Published design of LEGO®-compatible adapters
- Contributed to Project AMARONE
- Alpha testers of the SenseCAP Watcher
- Featured on the KS campaign by MangDang Ltd
- Featured on the KS campaign by Seeed Studio
- FREISA meets NASA Space ROS
- Guests of Hackster Impact Spotlights

REACH OUT TO US TO KNOW MORE!

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