B-AROL-O TEAM OPEN SOURCE HARDWARE AND SOFTWARE FOR FUN

Presentation by Gianpaolo Macario to

Linux Day Torino, 2023-10-28

CC BY SA 4.0 - https://github.com/B-AROL-O

AGENDA

In the next few minutes I will try to explain:

Who is the B-AROL-O Team?
What we made: #ARNEIS
What we have learned so far
What we are making: #FREISA

WHO IS THE B-AROL-O TEAM?

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

Name	GitHub
Gianpaolo Macario	@gmacario
Gianluca Teti	@gteti
Alessandro Varesi	@alv67
and many more!	

There are at least three reasons:

There are at least three reasons:

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

There are at least three reasons:

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

2. We are all based in Piedmont, which is one of the biggest industrial regions of Italy and also quite famous for its vineyards, wines and spirits

There are at least three reasons:

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

2. We are all based in Piedmont, which is one of the biggest industrial regions of Italy and also quite famous 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

There are at least three reasons:

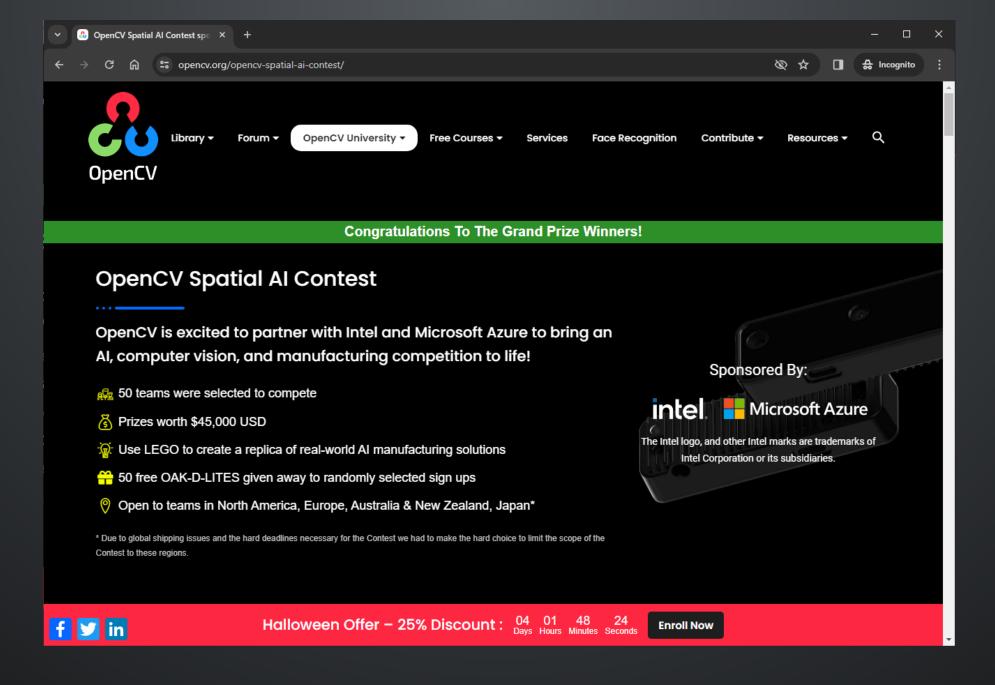
1. The initial team members work (*) in AROL S.p.A., a leading Italian company specialized in packaging machinery for the Food and Beverage Industry

2. We are all based in Piedmont, which is one of the biggest industrial regions of Italy and also quite famous 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



As with B-AROL-O, there were at least three reasons:

As with B-AROL-O, there were at least three reasons:

1. "Arneis" is a variety of wine grapes harvested in Piedmont - and therefore a nice counterpart of the name of our Team which also sounds like a Piedmontese wine

As with B-AROL-O, there were at least three reasons:

1. "Arneis" is a variety of wine grapes harvested in Piedmont - and therefore a nice counterpart of the name of our Team which also sounds like a Piedmontese wine

2. In Piedmontese language the word "arneis" means "tool" - as a matter of fact, the system we have thought about was exactly a tool in the toolset of a packaging line engineer

As with B-AROL-O, there were at least three reasons:

1. "Arneis" is a variety of wine grapes harvested in Piedmont - and therefore a nice counterpart of the name of our Team which also sounds like a Piedmontese wine

2. In Piedmontese language the word "arneis" means "tool" - as a matter of fact, the system we have thought about was exactly a tool in the toolset of a packaging line engineer

 Last but not least, in the scope of the OpenCV Spatial AI Contest "ARNEIS" was a wonderful acronym. We could even pretend we created the acronym based on its definition ¹

As with B-AROL-O, there were at least three reasons:

1. "Arneis" is a variety of wine grapes harvested in Piedmont - and therefore a nice counterpart of the name of our Team which also sounds like a Piedmontese wine

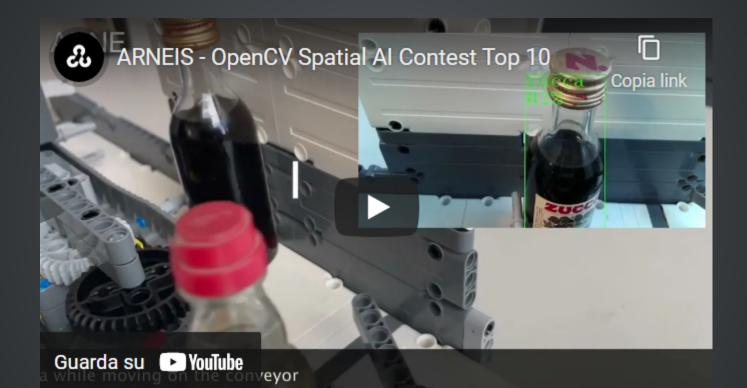
2. In Piedmontese language the word "arneis" means "tool" - as a matter of fact, the system we have thought about was exactly a tool in the toolset of a packaging line engineer

 Last but not least, in the scope of the OpenCV Spatial AI Contest "ARNEIS" was a wonderful acronym. We could even pretend we created the acronym based on its definition ¹

> Which is the **right** answer? Pick the one you like most!

OK, SO WHAT IS ARNEIS?

OK, SO WHAT IS ARNEIS?



https://youtu.be/mijyQ9Kjg9Y

OK, SO HOW DOES **Exactly** Arneis Work?

OK, SO HOW DOES **Exactly** Arneis Work?

→ C n = arneis.readthedocs.io/en/latest/

Welcome to the ARNEIS Project!

DOCUMENTATION

ARNEIS - Acronyms

ARNEIS - Bibliography

ARNEIS - Social Media Presence

ARNEIS - System Integration Rel. 1.0

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 Install DepthAI on a Raspberry Pi 4B for the ARNEIS project

HOWTO Install DepthAl Demo v3.0.9 on Windows 10

HOWTO Train a NN for Object Detection and create a deployable model for the OAK-D-Lite

HOWTO Control a LEGO Powered Up

Read the Docs

v: latest 🔻



Welcome to the ARNEIS Project!



The **ARNEIS** (short for <u>A</u> utomated <u>R</u> ecognizer, <u>N</u> etwork - <u>E</u> nabled, <u>I</u> tem <u>s</u> orter) is a Top 10 Finalist to the OpenCV Spatial AI Contest sponsored by Intel® and Microsoft Azure.

This is ARNEIS

ARNEIS in a nutshell

ARNEIS aims at reproducing in scale a packaging machine for the Industry-4.0.



읆 Incognito

\$ \$

C Edit on GitHub

П

• Learned a lot!

- Learned a lot!
- Engaged with new contributors on GitHub

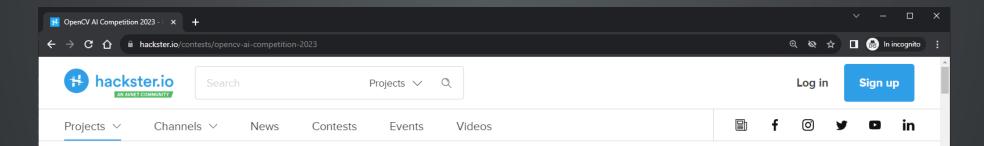
- Learned a lot!
- Engaged with new contributors on GitHub
- Won the OpenCV Spatial AI Contest Popular Vote

- Learned a lot!
- Engaged with new contributors on GitHub
- Won the OpenCV Spatial AI Contest Popular Vote



WHAT NEXT AFTER ARNEIS?

WHAT NEXT AFTER ARNEIS?



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



PLEASE HELP US WITH **#FREISA**

PLEASE HELP US WITH **#FREISA**

FREIS

https://www.hackster.io/projects/845012









THANK YOU FOR YOUR ATTENTION

You can reach out to us through the following platforms:

- Twitter X: @baroloteam
- Instagram: @baroloteam
- GitHub: B-AROL-O
- Email: info@baroloteam.online

