



# Sebastian Cavada

Computer Vision student & Digital Innovator

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## About Me

Computer Vision Researcher and Digital Innovator with proven expertise in 3D reconstruction, real-time pose tracking, and neural network optimization for low-resource systems. Demonstrated track record of winning hackathons and leading technical projects, combining theoretical knowledge with practical implementation. Multilingual professional with experience in international collaborations and a passion for applying advanced computer vision solutions to environmental challenges.

## Social Network

-  LinkedIn Profile
-  Github Profile Page
-  Website

## Languages

-  Italian - C2 - mother tongue
-  English - C1 - IELTS score band 8
-  German - B2 - University exam

## Education

Bachelor in Computer Science

- 2023 – 2025 **Master in Computer Vision** MBZUAI - Abu Dhabi  
Master of Research in Computer Vision, Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), Abu Dhabi, UAE, Graduated 2025, Focused on large-scale 3D reconstruction, 3D foundation models, and Gaussian Splatting supervised by Prof. Ian Reid.
- 2019 – 2023 **Bachelor Computer Science** Free University Bolzano  
Graduated with **108/110** in Computer Science from a trilingual university, proficient in English, German, and Italian. Thesis project supervised by Prof. Oswald Lanz.
- 2022 **Erasmus - Cognitive Science** Universität Osnabrück  
Studied Cognitive Science for 6 months at the University of Osnabrück, in Germany, focusing on **Machine Learning and Computer Vision**. Strengthen my German language and communication skills.
- 2016 – 2019 **Maturità Italiana** ITT Marconi, Rovereto  
Graduated with **97/100** in the technical school in Rovereto with a specialization in Computer studies
- 2017 – 2018 **Irish Leaving Certificate** CBS Mitchelstown, Mitchelstown  
4th year abroad, learned English, and achieved the Irish Leaving Certificate graduating with **476/625**

## Publications

- 2024 **Does Complexity Pay Off? Applying Advanced Algorithms to Depression Detection on the GLOBEM Dataset**  
*Sebastian Cavada, Alvaro Berobide, Yevheniia Kryklyvets*  
IARIA - HEALTHINFO 2024
- 2025 **CAD-Assistant: Tool-Augmented VLLMs as Generic CAD Task Solvers**  
*Dimitrios Mallis, Ahmet Serdar Karadeniz, Sebastian Cavada, Danila Rukhovich, Niki Foteinopoulou, Kseniya Cherenkova, Anis Kacem, Djamila Aouada*  
ICCV 2025

## Awards

- March 2024 **Winner of the Pioneers4.0 Hackathon**, co-organized by the Ministry of Industry and Advanced Technology (MoIAT), EDGE Group, and LIPTON. Awarded a special internship at LIPTON. EDGE - UAE
- July 2023 **Winner of fully founded master of research scholarship** MBZUAI - UAE
- Sep. 2022 **Winner of Challenge "4D buildings" by Siemens** HackZurich

## Projects

- 2019 – now **Hackathons** Around the world  
Participated in numerous hackathons across Europe, demonstrating strong collaborative and technical skills. Achieved a notable 50% win rate in competitions. In 2022 I led a team to win first prize in the "4D Buildings" challenge at HackZurich, Europe's largest hackathon.
- 2021 – 2023 **Climathon Fiemme** Predazzo  
Co-organized the inaugural Climathon in Fiemme Valley, collaborating with three other individuals passionate about climate action. Successfully attracted over 50 participants, resulting in 9 innovative ideas and business projects with significant local community impact over the years.

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## Interests

AWS

Flutter

Computer Vision

Virtual Reality

MySQL

Open Source

VueJS

Open Source

SLAM

## Soft Skills

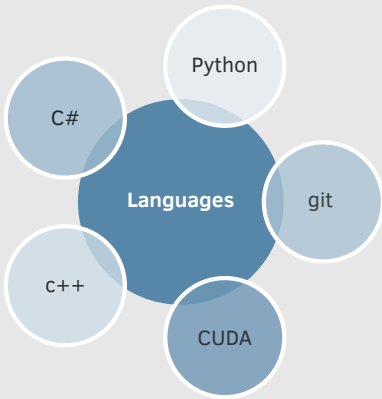
Creative

Technologist

Teamwork

Problem Solving

## PLs



## Interests

Sport

Music

Photography and Video Editing

Reading

## Working Experience

2021 – 2022

**VR Developer**

RealverseVR - a Start Up project

CTO and VR programmer at RealverseVR: Led development of educational experiences through VR technologies such as unity and meta quest, resulted in the publishing of a Virtual experience on Quest store and SteamVR, in collaboration with the museum of the Lagazuoi, Cortina.

2021 – 2023

**Student Tutor**

University of Bolzano

Appointed for individual study support based on previous experience, personal characteristics, and expressed availability

### Internship

Fall 2025

**Collaborator – INRIA Paris**

Gaussian Splatting

Researching how vision–language models interpret physical dynamics in synthetic environments; project in preparation for ICML. Supervised by Raoul de Charette.

Summer 2025

**Visiting Researcher – MBZUAI**

3D Foundation Models

Fine-tuned 3D foundation models to incorporate camera parameter priors, improving pose-aware depth estimation. Supervised by Prof. Ian Reid.

Summer 2024

**CVI2 – University of Luxembourg**

Mesh Reconstruction with LLMs

Built dataset creation pipelines to instruction-tune open-source LLMs for 2D/3D mesh autocompletion. Utilized PyTorch, Torchrun, HPC, and WandB for visualization; accelerated training to complete within 2 days. Supervised by Dr. Anis Kacem.

Summer 2023

**FBK - Trento**

Efficient Neural Networks for Embedded Systems

Designed a computer vision pipeline to scale neural networks for low-resource devices, from GPU prototyping in Python to MCU deployment in C. Released code as open-source. Supervised by Francesco Paissan.

2022–2023

**Thesis Internship – UniBZ**

Egocentric/Exocentric 3D Pose Tracking

Developed a real-time 3D human pose tracking system integrating egocentric and exocentric video streams, forming the basis of my thesis. Created a digital twin of the indoor environment for enhanced visualization. Supervised by Prof. Oswald Lanz.

Summer 2017

**Junior Web Developer – Suggesto**

Mesh Network Project

Implemented a mesh network system, created content, tested infrastructure, and improved existing codebase.

## Extra-Curricular Activities

2022 - now

**Content creator on YouTube**, sharing tips and my experiences while traveling and programming

2023

**MBZUAI Entrepreneurship Courses**, hosted by StartAD to accelerate ideas development

2023

**Practice-oriented course on the EU’s history**, structure, and politics at the University of Innsbruck EUREGIO Brussels School, including a visit to the European Parliament in Brussels.

2021

**Entrepreneurship and Innovation Master course** as a free choice at the Free University of Bolzano

2020 - 2022

**Student representative** of the computer science faculty at the Free University of Bolzano.