Omar Eduardo Borges Montero

AI & Automation Engineering Student — Double Degree (Udine–Klagenfurt)

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Povoletto (UD), Italy

Profile

Master's student in **Artificial Intelligence, Industrial Automation & IoT**, enrolled in an international **Double Degree** (Italy–Austria) with strong experience in **deep learning, computer vision, embedded systems and data pipelines**. International background with study periods in Spain and Austria. Passionate about defense technologies, automation and real-world AI applications.

Education

MSc in Multimedia Communication and Information Technologies (AI, Automation & IoT)
University of Udine (Italy) & University of Klagenfurt (Austria) — *Double Degree* (2024–2026)
Current weighted average: 29.143/30
Description: The Master's Degree in Multimedia Communication and Information Technologies offers a curriculum in Artificial Intelligence, Industrial Automation, and IoT. It aims to train professionals with advanced skills in designing and implementing smart, network-based systems and services in highly innovative environments. The program focuses on smart technologies, distributed applications, embedded devices, and pervasive computing. Courses are delivered in blended mode, combining traditional teaching with e-learning materials, video lectures, and podcasts. The degree offers a double international title: the Italian Master's Degree and the Austrian "Diplom-Ingenieur," in collaboration with Alpen-Adria-Universität Klagenfurt.

- Focus: Machine Learning, Computer Vision, IoT, Embedded Systems, Cybersecurity, Intelligent Control Systems.

- Erasmus+: Universidad de Alcalá (Madrid). Courses in Data Science Fundamentals, Intelligent Control Systems, Artificial Intelligence.

BSc in Multimedia Sciences and Technologies — University of Udine (2021–2024)
Grade: 82/110
Description: The educational path integrates technology and communication, providing a strong foundation in programming, mathematics, statistics and computer science. It is complemented by humanistic subjects such as sociology of communication, media law and skills in music and film. Later, specific areas such as augmented reality, game programming and directing techniques are explored.

- Erasmus+: Universitat Politècnica de València (UPV).

- Thesis: *Interstellar* di Christopher Nolan — analisi del film e della colonna sonora del compositore Hans Zimmer.

High School Diploma in Electronics — ITI A. Malignani (2016–2021)
Grade: 74/100.
Description: Graduated in Electronics from Istituto Tecnico Industriale A. Malignani, Udine. This education provided a solid foundation in electronics, focusing on both theoretical and practical applications, laboratory work and industrial technologies, and it strengthened problem-solving skills and a technical mindset.

Technical Projects

HuBMAP + HPA: Functional Tissue Unit Segmentation (Kaggle)

- Developed a full pipeline for biomedical image segmentation.

- Implemented and compared U-Net, ConvNeXt-based and ensemble architectures.

- Integrated SAM2 for semi-automatic segmentation refinement.

- Tools: PyTorch, MONAI, OpenCV, Google Colab.

Neural Network Position Control — Intelligent Control Systems

- Designed a feedforward neural network for dynamic trajectory learning.

- Developed and tested the control system in MATLAB/Simulink.

IoT Breathalyzer — Social Robotics Lab

- Built an embedded alcohol-level sensor with Bluetooth communication.

- Hardware: Micro:bit, Arduino, LCD, gas sensor; Software: AppInventor.

Recommender Systems Research

- Implemented collaborative filtering and Learning-to-Rank methods.

Skills

Programming: Python, C/C++, MATLAB, R, SQL, JavaScript, HTML/CSS
AI/ML: PyTorch, TensorFlow, scikit-learn, MONAI, OpenCV
Concepts: CNNs, U-Net, Transformers, segmentation, ML pipelines
Tools: Git, LaTeX, WordPress
Embedded/IoT: Microcontrollers, sensors, Bluetooth protocols

Experience

Web Developer Intern — AdaLab Udine (Mar–Apr 2024)

- Developed responsive websites using HTML, CSS, JavaScript and WordPress.

- Collaborated within structured team workflows.

Waiter Assistant — Adria Sole S.N.C. (Summer 2021, 2022)

- Strengthened teamwork, communication, and stress management.

Certifications

ENAC UAS A1–A3 Drone Pilot License
Google Digital Marketing (Fundamentals)
Workshop: Digital Innovation and AI in Mountain Environments

Languages

Italian (Native), Spanish (Native), English (B2)

Extracurricular

UEFA Super Cup 2025 Volunteer — Ceremony Maker
Active runner; participation in athletics events.

Interests

AI, defense technologies, motorsport, running, innovation

Last updated: 2025