

Alessandro De Vidi

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PROFESSIONAL PROFILE

Master's student in Artificial Intelligence Systems with a solid background in computer engineering and software development. Passionate about AI, Computer Vision, and Software development. Fast learner, adaptable, and team-oriented. Strong communication and problem-solving skills, with an interest in combining academic rigor and practical applications.

RESEARCH INTERESTS AND KNOWLEDGE AREAS

- Machine and Deep Learning
- Computer Vision
- Embedded Systems and Internet of Things (IoT)
- Software Engineering and DevOps

EDUCATION

University of Trento

MSc in Artificial Intelligence Systems

Trento, Italy

2024 – Present

University of Trento

BSc in Computer, Communication and Electronic Engineering

Trento, Italy

2021 – 2024

- Thesis: Mitigating biases in Text-to-Image models through ITI-GEN (Stable Diffusion)
- Final grade: 108/110

EXPERIENCE

AI Challenge Participant

Sep 2025 – Dec 2025

Industrial AI Challenge - Hub Innovazione Trentino

Trento, Italy

- Developed an energy optimization model for the CONCAST case study, integrating MILP algorithms for load management and the Chronos Bolt Foundation Model for estimating photovoltaic production.
- Designed a decarbonization strategy capable of reducing the carbon footprint by 15%, making the results actionable through the creation of an energy dashboard for monitoring KPIs.

Bias Mitigation Research Intern

Feb 2025 – Sep 2025

University of Trento

Trento, Italy

- Conducted research under the supervision of the author of OpenBias (CVPR 2024 Highlight), extending the ITI-GEN framework to mitigate non-standard bias categories in Text-to-Image models (Stable Diffusion).
- Designed an automated de-biasing pipeline integrating LLaMa 3, leveraging its instruction following capabilities to rewrite and neutralize user prompts prior to generation.

PROJECTS

Home Repair Assistant (GitHub)

Apr 2025 – Jun 2025

University of Trento

Trento, Italy

- Designed a multi-agent conversational AI framework, adopting the Google A2A protocol as the standard for communication and interaction state management.
- Managed the orchestration of five autonomous AI agents (Diagnosis, Do-It-Yourself, Technical Matching, Booking, Feedback) to automate the entire service flow.
- Optimized latency between agents by 35% under load conditions (1K+ concurrent users) through the implementation of high-performance asynchronous pipelines.

3D Pose Estimation & MoCap Align (GitHub)

Apr 2025 – Jun 2025

University of Trento

Trento, Italy

- Reconstructed and validated the dynamic 3D pose of athletes (basketball) using multi-view triangulation of 2D keypoints, achieving an accuracy of 18 mm (MPJPE) compared to MoCap data.
- Calibrated an 8-camera setup and developed an automated workflow for lens distortion correction, ensuring precise alignment of the system.

Technical Contributor – Robotic Tap System

Sep 2024 – Gen 2025

RICAP @ CIIRC (Czech Institute)

Prague / Expo 2025

- Co-developed the vision system of a robotic beer dispensing system integrating KUKA arms, neural networks, and real-time sensor feedback
- Focused on optimization, precision, and adaptive performance under real-world Expo constraints

SmartChess – Embedded AI Chess Trainer (GitHub)

Feb 2023

University of Trento

Trento, Italy

- Built a chess-playing IoT system with a Raspberry Pi 4 and YOLOv8 for real-time board recognition
- Integrated adjustable AI difficulty for training via custom chess engine

Pediline – Smart City Web App

May 2023

DISI UniTn + Municipality of Trento

Trento, Italy

- Finalist (3rd place) in the "100 Software Projects for the City" student challenge
- Developed a full-stack web service to improve public utility access and citizen interaction

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, SQL, Dart

Frameworks: Node.js, Flask, TensorFlow, OpenCV, Flutter

Systems: Linux, Operating Systems, Embedded Systems, IoT

Tools: Git, Docker, PostgreSQL, VSCode, PyCharm

AI/ML: Machine Learning, Computer Vision, YOLOv8, CNNs, Bias Mitigation

Other: Software Engineering, Cybersecurity Fundamentals, Agile, UML, REST APIs

LANGUAGES

Italian: Native

English: B2 (Upper Intermediate)