Carlo Zamuner

+39 333 998 3151 • carlo.zamuner@gmail.com • linkedin.com/in/carlo-zamuner • github.com/carlozamuner • carlozamuner.it

Education

University of Trento *Sep 2024 – Present*
Master in Artificial Intelligence Systems GPA: 3.7/4.0 *Trento, Italy*
- Specializing in computer vision, deep learning architectures, AI agents, and large language models.

University of Trento *Sep 2021 – Jul 2024*
Bachelor in Computer, Communications and Electronic Engineering *Trento, Italy*

Experience

Founder & Full-Stack AI Developer *Aug 2025 – Present*
SwimMind Platform (swimmind) *Trento, Italy*
- Optimized a serverless Google Cloud analytics platform processing 10K+ real-time events at 99.9% uptime.
- Deployed Gemini AI assistant automating training plans, cutting coaching prep time by 60%.
- Automated AWS monitoring (Lambda, S3, SNS, CloudWatch) ensuring enterprise-grade reliability.

AI Challenge Participant *Sep 2025 – Dec 2025*
Industrial AI Challenge - Hub Innovazione Trentino *Trento, Italy*
- Built ML models forecasting energy demand and emissions with 98% accuracy on multi-source data.
- Developed AI simulations integrating biogas–solar systems for sustainable energy management.
- Applied deep RL and genetic algorithms reducing production carbon footprint by 15%.

GPU-Accelerated Research Intern *Apr 2024 – Sep 2024*
University of Trento *Trento, Italy*
- Integrated Unreal Engine with NVIDIA Sionna increasing EM simulation speed by 40%.
- Designed TensorFlow modules (90%+ coverage) accelerating wireless system prototyping.

Projects

Home Repair Assistant (GitHub) • *Python, LangChain, FastAPI, Docker, AWS* *Apr 2025 – Jul 2025*
- Implemented Google's **Agent-to-Agent (A2A)** protocol as core messaging layer.
- Orchestrated five autonomous agents (Diagnosis, DIY, Matching, Appointment, Feedback).
- Optimized inter-agent latency by 35% at 1K+ concurrent users using async pipelines.
- Enabled plug-and-play agent upgrades via zero-copy JSON-RPC protocol.

3D Pose Estimation & MoCap Align (GitHub) • *Python, OpenCV, Open3D, NumPy* *Apr 2025 – Jul 2025*
- Triangulated multiview 2D keypoints recovering 3D basketball poses; validated 18 mm MPJPE vs MoCap.
- Calibrated an 8-camera rig and automated lens-distortion correction.

Personal Projects & Interests

Developer Tools: Built Python-to-Jupyter converter and AI food tracker (USDA data), deployed on carlozamuner.it.
Technology Enthusiast: Active in blockchain and quantitative finance, developing algorithmic trading strategies.

Technical Skills

Languages: Python (proficient), JavaScript, C++, CUDA
Frameworks & Libraries: PyTorch, TensorFlow, Hugging Face Transformers, LangChain, Vue.js
Machine Learning: Computer Vision, LLMs, Signal Processing, Deep Learning, Prompt Engineering
Data: NumPy, Pandas, SQL, MongoDB, PostgreSQL, Firebase, Data Visualization
DevOps & Tools: AWS (EC2, Lambda, S3), Docker, Git, FastAPI, Weights & Biases, Jupyter, VS Code, Google Colab

Additional Skills

Soft Skills: Research-oriented, Team collaboration, Technical communication, System debugging, Product Management
Languages: Italian (Native/C2), English (B2/C1)