

Orestis Zambounis

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[Portfolio](#) | [GitHub](#) | [LinkedIn](#)
Deep Learning, Computer Vision,
Software Engineering, Robotics

Experience

Senior ML Engineer / Tech Lead · QSC (acq. by Acuity Brands) · Zurich, CH · Remote (Jul 2023 - Present)

- Promoted to **ML Tech Lead** in Dez. 2024, leading inference strategy, architecture, optimization and team of 3.
- Converted single-process architecture to a stage-parallel pipeline, **doubling** throughput and improving scalability.
- Ported vision ML models to TensorRT and DALI, **tripling** speed and reducing VRAM usage by **15%**.
- Increased system speed by **30%** on resource-constrained hardware through batched inference implementation.
- Led CV/ML prototyping in detection, tracking, embeddings, and VLMs with state-of-the-art methods.
- Technologies: **TensorRT, ONNX, Weights & Biases, Grafana, ROS, Docker, GCP, PyTorch, Python**.

Machine Learning Engineer · Seervision (ETHZ Spin-off, acq. by QSC) · Zurich, CH · Remote (Aug 2021 - Jul 2023)

- Optimized real-time detection pipeline, reduced latency by **24%**, VRAM by **45%**, and increased accuracy by **10%**.
- Designed, prototyped, tuned, and deployed a face recognition system with a false-positive rate below **5%**.
- Drove real-time inference optimization efforts, **tripling** the number of supported clients per hardware unit.
- Collaborated with the product team to prototype and experiment with CV/ML systems for novel user experiences.
- Technologies: **ROS, OpenCV, CUDA, PyTorch, TensorFlow, Docker, GitLab CI/CD, GCP, Python, C++**.

ML Infrastructure Engineer · benshi.ai (funded by BMGF) · Barcelona, ES · Hybrid (Nov 2020 - Jun 2021)

- Built cloud infrastructure enabling large-scale ETL pipelines, data analytics and machine learning applications.
- Technologies: **Databricks, PySpark, MLflow, Docker, Kubernetes, Azure, GitHub Actions, Pandas, Python**.

Full-Stack Machine Learning Engineer · Self-employed (Feb 2019 - Mar 2020)

- Developed a CNN-based face predictor with an **18%** accuracy improvement, optimized for low-latency inference.
- Developed full-stack application with cross-platform frontend and microservice-based cloud architecture.
- Technologies: **AWS, React, Flask, PostgreSQL, TensorFlow, scikit-learn, Python**.

Control Systems Engineer, Intern · Rapyuta Robotics (ETHZ Spin-off) · Tokyo, JP · On-site (Mar 2016 - Feb 2017)

- Achieved a **55x speedup** of NumPy-heavy simulation iterations and open-sourced the Python package **PyJet**.
- Designed energy estimators using a Kalman Filter, enhanced tracking controller and performed sensor tests.
- Technologies: **ROS, NumPy, SciPy, Python, C++**.

Education

MSc Robotics, Systems & Control · 5.25/6.0 · ETH · Zurich, CH (2017 - 2019)

- Developed an online deep learning architecture for object instance prediction, pose estimation, and tracking.
- Showed that an additional depth input channel improved the segmentation accuracy of Mask R-CNN by **31%**.
- Technologies: **TensorFlow, Keras, Caffe2, OpenCV, CUDA C/C++, Python**.

BSc Mechanical Engineering · 5.51/6.0 · ETH · Zurich, CH (2012 - 2016)

- Developed balancing algorithms for a 6DoF **omnicopter** using non-linear control methods.
- Technologies: **MATLAB, Simulink, C++**.

Projects

Shop Automation: Self-service IoT system built using **Flask, Stripe, Shopify, RasPi, RS-485**. (2023 - Present)

Trap the Cat: Mobile app built with **JavaScript, CapacitorJS** and **Firebase**, with **100k+** downloads. (2023 - 2024)

Machine Dreams: Experimental fusion of **AI** and digital art using **GANs**, creating surreal NFT artworks. (2022)

Anti CryptoPunks: NFT project built on the **Polygon** blockchain, with **6 ETH** traded. (2022)

PyJet: Python library converting **Python/NumPy** operations to **C++**, achieving a **55x** speedup. (2015)