Orestis Zambounis

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github.com/orestis-z, linkedin.com/in/orestis-z
Deep Learning, Computer Vision, Robotics,
Systems & Control, Distributed Systems

Experience

Senior Machine Learning Engineer *Jul 2023 - Present*

Q-SYS · Zurich, Switzerland · Remote

- Ported all vision ML models to ONNX and **TensorRT**, **tripling** pipeline speed and reducing VRAM by **15%**
- Redesigned ML architecture for modularity and flexibility, led technical debt cleanup, and managed the ML team, integrating groups and enforcing best practices

Machine Learning Engineer *Aug 2021 - Jul 2023*

Seervision (ETH Zurich Spin-off, acquired by Q-SYS) · Zurich, Switzerland · Remote

- Optimized person detection and pose estimation pipeline, increasing speed by **20%**, accuracy by **10%**, and reducing VRAM by **45%**
- Created a face recognition system with under **5%** false-positive rate, greatly enhancing product value
- Drove efforts to **triple** supported systems per hardware unit, enhancing scalability
- Prototyped a multi-view grid for hybrid meeting rooms, a decisive factor in the acquisition by Q-SYS
- Received recognition for achieving the highest business impact among all engineers in 2022
- Enhanced expertise in **ROS**, **C++**, **Python**, **PyTorch**, **OpenCV**, **CUDA**, **Docker**, CI/CD and system monitoring

MLOps Engineer *Nov 2020 - June 2021*

benshi.ai (Funded by Bill & Melinda Gates Foundation) · Barcelona, Spain · Hybrid

- Led data processing tools development with **Databricks**, **Spark**, and CI/CD, securing **$X million** funding
- Managed the ML model lifecycle, employing **Pandas**, **MLflow**, **Azure**, **Docker**, **Kubernetes**, and ETL processes

Full-Stack & Machine Learning Engineer *Feb 2019 - May 2020*

Freelancer · Remote

- Developed an end-to-end, cloud-based AI app with **TensorFlow** and **scikit-learn**, enhancing CNN-based face recognition accuracy by **18%** and optimizing for real-time inference
- Designed cross-platform frontend using **Cordova**, **React Native**, **React.js**, and **Electron**, and deployed scalable microservices to **AWS** with **Python**/**Flask**, **PostgreSQL**, and proxies

Control Systems Engineer, Intern *Mar 2016 - Feb 2017*

Rapyuta Robotics (ETH Zurich Spin-off) · Tokyo, Japan · On-site

- Achieved a **55x** speedup of **NumPy**-heavy simulation iterations and open-sourced the **Python** package PyJet
- Designed energy estimators for a multicopter using a Kalman Filter (EKF), **Python**, **SciPy**, and **C++**
- Improved a setpoint tracking controller and conducted sensor tests for a multicopter using **C++** and **Python**

Education

Imperial College London *Aug 2018 - Mar 2019*

Master's Thesis · London, United Kingdom

- Pioneered a multi-task CNN deep learning architecture that predicts object instances, human poses, instance masks, and tracks people end-to-end.
- Implemented a CNN using **Caffe2** and **Python** including custom operators with **CUDA C/C++**

ETH Zurich *Feb 2017 - Mar 2019*

MSc Robotics, Systems & Control · Zurich, Switzerland

- Introduced a method to boost scene understanding for robotic systems equipped with RGB-D sensors
- Showed that an additional depth input channel improves the segmentation accuracy of Mask R-CNN by **31%**
- Submitted paper to CoRL 2018 and leveraged knowledge in **TensorFlow**, **Keras**, **OpenCV** and **Python**

ETH Zurich *Sep 2012 - Feb 2016*

BSc Mechanical Engineering · Zurich, Switzerland

- Graduated with more than two standard deviations above the average (top **5%**)
- Implemented balancing manoeuvres for the Omnicopter to demonstrate its 6DoF flying versatility
- Derived system dynamics, synthesised non-linear attitude control algorithms, and a Kalman filter using quaternions, **C++** and **MATLAB** / **Simulink**