# Orestis Zambounis

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C++, Python, Robotics, Computer Vision,
Machine Learning, Cloud Computing

## Experience

**Machine Learning Engineer** *Nov 2020 - Present*

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

- Lead the creation of the data processing tooling with **Databricks**, **Python**, **Spark** and CI/CD pipelines
- Switched my role, onboarded and lead a new engineer to hit a milestone that secured **$X million** in funding
- Managed the lifecycle of ML models, built data pipelines, A/B testing modules and a mock data generator
- Leveraged knowledge in **Pandas**, **MLflow**, **Azure**, **Docker**, **Kubernetes**, **Vue.js**, ETL and statistical modeling

**Full-Stack Engineer** *Feb 2019 - May 2020*

Self-employed · Global (World Travel)

- Created a cloud-based and AI-powered app end-to-end, from product design to development and marketing
- Modified and retrained a CNN with **TensorFlow** and **scikit-learn** on a dataset of faces improving the state-of-the-art accuracy by **18%** and productionised the model for real-time inference
- Developed a cross-platform frontend using **Cordova**, **React Native**, **React.js** and **Electron**, and deployed a scalable microservice architecture based on the **Python** / **Flask** / **Gunicorn** / **NginX**, and **PostgreSQL** stack
- Learned using **AWS** services: EC2, Lambda, CloudWatch, OpsWorks, SNS, SQS, S3, RDS, Route53, CloudFront
- Generated leads by blogging, facebook & google ads, SEO and email campaigns, and leveraged knowledge in branding, marketing funnels, subscription-based pricing and data-driven optimisations

**Co-Founder, Product Manager** *Jan 2018 - Apr 2019*

Kimata Networks · Basel, Switzerland

- Created specifications and roadmaps for a digital product, hired and managed an agile team of five frontend and backend developers, iterated on user feedback, analysed the competitive landscape
- Passed the first Venture Kick stage raising CHF 10k, gained insights into company founding, business planning, pivoting, intellectual property, outsourcing, accounting, strategic decision-making and marketing
- Lead the development of a mobile app with **OpenGL** / **libGDX**, **Java** / **Android** and **React Native**

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

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

- Achieved a **55x** speedup of **NumPy**-heavy simulation iterations, and open-sourced the **Python** package PyJet
- Designed energy estimators for a multicopter with Kalman Filters (EKF) using **Python**, **SciPy** and **C++**
- Improved a setpoint tracking controller and conducted sensor tests for a multicopter using **C++** and **Python**
- Gained experience in program optimisation, **ROS**, **Linux**, **Bash** scripting, **Git**, Scrum and authentication servers

## Education

**Imperial College London** *Aug 2018 - Mar 2019*

Master's Thesis · London, United Kingdom

- Laid a solid step stone for generating arbitrarily large 3D human pose datasets for human motion prediction
- Pioneered a multi-task CNN deep learning architecture that predicts object instances, human poses, instance masks and tracks people end-to-end
- Implemented the CNN using **Caffe2** and **Python** including custom operators with **CUDA C/C++**

**ETH Zurich** *Feb 2017 - Mar 2019*

MSc Robotics, Systems & Control (5.25/6.0) · Zurich, Switzerland

Semester thesis (5.75/6.0):

- Introduced a method to boost the 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 a paper to CoRL 2018 and leveraged knowledge in **TensorFlow**, **Keras**, **OpenCV** and **Python**

**ETH Zurich** *Sep 2012 - Feb 2016*

BSc Mechanical Engineering (5.51/6.0) · Zurich, Switzerland

- Graduated with more than two standard deviations above the average (top **5%**)

Bachelor's thesis (5.75/6.0):

- Implemented balancing manoeuvres for the Omnicopter to demonstrate its 6DoF flying versatility
- Derived the system dynamics, synthesised non-linear attitude control algorithms and a Kalman filter using quaternions, **C++** and **MATLAB** / **Simulink**