

# Orestis Zambounis

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[github.com/orestis-z](https://github.com/orestis-z)

C++, Python, TensorFlow, Keras,  
Deep Learning, Computer Vision

## Education

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### Imperial College London

Aug 2018 - Jun 2019

Exchange for Master's Thesis · London, United Kingdom

- Designed a 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 - Jun 2019

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

Semester thesis (5.75/6.0):

- Modified an existing Mask R-CNN implementation with **TensorFlow**, **Keras**, **OpenCV** and **Python**
- Showed that an additional depth input channel improves the instance segmentation accuracy by up to **31%**
- Submitted the computer vision paper report to CoRL 2018

### ETH Zurich

Sep 2012 - Feb 2016

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

Bachelor's thesis (5.75/6.0):

- Synthesised non-linear attitude control algorithms and a Kalman filter using **C++** and **MATLAB / Simulink**

## Experience

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### Full-Stack Developer w/ Machine Learning

Jul 2019 - May 2020

LeanMind · Self-Employed · Basel, Switzerland

- Modified and retrained a CNN with **TensorFlow** and **scikit-learn** on a dataset of faces leading to an up to **18%** higher prediction accuracy compared to the state-of-the-art
- Developed a cross-platform frontend with a mixture of **Cordova**, **React Native**, **React.js** and **Electron** to support mobile, web and desktop apps with one code-base
- Developed a backend composed of four scalable microservices with **Python / Flask** and **PostgreSQL** and deployed it to **AWS** OpsWorks

### Co-Founder, Technical Lead

Jan 2018 - Apr 2019

Kimata Networks · Full-time · Basel, Switzerland

- Launched a mobile app with **OpenGL / libGDX**, **Java / Android** and **React Native**
- Created product specifications, hired and managed a team of five frontend and backend developers
- Passed the first Venture Kick stage raising CHF 10k

### Mobile App Developer (side job)

Sep 2017 - Aug 2018

nexttron internet team · Part-time · Basel, Switzerland

- Developed and released a cross-platform mobile app with **React Native** leading to 1,000+ downloads and a 5-star rating

### System Control Engineer, Intern

Mar 2016 - Feb 2017

Rapyuta Robotics · Full-time · Zurich, Switzerland / Tokyo, Japan

- Designed a state-of-charge battery estimator with an extended Kalman Filter (EKF) using **Python** and **C++**
- Sped up a **Python / NumPy** model-simulation-framework by **550%** with the creation of **PyJet**
- Created an energy estimator for an arbitrary path followed by a multi-rotor vehicle with **Python / SciPy**
- Improved a setpoint tracking controller for a multi-rotor vehicle implemented in **C++**
- Leveraged additional knowledge in **Linux**, **Bash** scripting, **Git** and **ROS**

## Software Projects

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### PyJET – compiling NumPy

- Achieved an up to **55x** speedup of **Python** code by converting **NumPy** operations to performant **C++**
- Co-authored and open-sourced the Python package [PyJET](#)

### Resume Compiler

- Open-sourced a resume compiler using **Node.js** at [github.com/orestis-z/resume-compiler](https://github.com/orestis-z/resume-compiler)

### Personal Website

- Published my personal website with **React.js** / **Next.js** and **AWS** Lambda on [www.leanmind.ch](http://www.leanmind.ch) (German)

### Mobile Apps

- Created multiple mini mobile apps with **React Native** and **Cordova** published them on the [Google Play Store](#)

## Other

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### Languages

German (mother tongue), Greek (mother tongue), English (fluent), French (intermediate), Italian (beginner)

### Hobbies

Rock climbing, Saxophone, Programming, Traveling