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## SUMMARY

I'm specialized in computer vision, reasoning, planning, real-time systems and automation. I have more than 5 years of experience in computer vision heavy projects and industries as biotech, retail or ADAS. I have experience in startups, scale-ups and big consulting firms. I focus on task automation to minimize human time spent on repetitive tasks, enabling them to concentrate on delivering value.

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## WORK EXPERIENCE

### SOFTWARE ENGINEER @ LUMICKS

Amsterdam (Netherlands) | Jul 2021 - Currently

- Development of data acquisition system for new generation microscope. Using C++17/20.
- Development of **onnxruntime** based imaging inference libraries.
- Maintenance, upgrade and creation of **conan** recipes for build system.
- Imaging acquisition algorithms. Using **OpenCV**, **tensorflow**.
- Prototyping of real-time imaging acquisition systems for high force environments. Using **FFmpeg**, **OpenCV**, **mbedOS**, **C++**, **Python** and **electronics design**.



### AI LEAD @ Uniphore (acquires Emotion Research Lab)

Remote (Netherlands) | Jan 2021 - Jul 2021

- Incorporation of Emotion Research Lab **computer vision** technology to Uniphore's during **acquisition phase**.
- Deployment of a **highly scalable Deep learning platform** for video processing in **real-time**.



### AI LEAD @ Emotion Research Lab

Valencia (Spain), Remote (Netherlands) | Jan 2019 - Jan 2021

- Responsible of AI technology and development.
- Develop several products up to the acquisition of the company from a 100M\$ Series C company.
- Deployment of a **highly scalable Deep learning platform** for video processing in the cloud using **AWS ECS**.
- Emotion recognition pipeline implementation in **C++** and **Tensorflow**.
- Development of a **multi-platform** automatic release for Windows, Linux (CPU, GPU) and **Jetson** platform.
- Core library **migration** from **C++98** to **C++14**.



### COMPUTER VISION DEVELOPER @ CISCO/PI School

Rome (Italy) | Oct 2018 - Dec 2018

- Research of solutions for the task of real time **depth estimation** from monocular images. **GANs** and **VAEs** were the developed proofs of concepts.
- Development done inside a collaboration program between PI School and Cisco.



### COMPUTER VISION DEVELOPER @ XESOL Innovation

Vigo (Spain) | Ago 2017 - Oct 2018

- Development and fine-tuning of object detection pipelines for embedded devices deployment based on Deep Learning (**Caffe** and **Tensorflow**).
- R&D of pipelines focusing in fast inference (**Intel Movidius**, **TensorRT**).
- Development of a system for vehicles and pedestrian counting and tracking in real-time. (**Jetson Board**, **C++14**)
- Development of a semi-automated development and testing suite for deep learning models to decrease the time between experiments.



**XESOL**innovation

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## JUNIOR CONSULTANT @ Capgemini

Valencia (Spain) | Feb 2016 – Feb 2017

- Full stack web development.  
Keywords: Java, Spring, Hibernate, ExtJS and Oracle RDBMS.



## DEVELOPER @ Chivesoft(self-employed)

Valencia (Spain) | Jun 2015 – Feb 2016

- Android development: Facebook friends quiz, sickness predictor, several speed reflex games.
- Development of booking platform for sport centers.  
Keywords: Android, JavaScript, Java.
- Embedded device prototyping and development.  
Keywords: C, C++, CORTEX-M4, ANDROID, 3D Printing, Java.



## DEVELOPER @ TECHBASE

Gdańsk (Poland) | Sept 2014 – Mar 2015

- Sales team support from the technical point of view.
- Technical presentations to potential customers.



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## EDUCATION

Oct 2021 – Jul 2023 **MSC ARTIFICIAL INTELLIGENCE'S RESEARCH** - *Specialty in reasoning and planning*. Universidad Internacional Menéndez Pelayo (Spain)

Master's thesis: Satellite imaging analysis for invasive algae detection in the surface of lakes.

## Feb 2017 – Mar 2018 SELF-DRIVING CAR NANODEGREE

The program contains the next topics: Computer vision, deep learning, machine learning, sensor fusion, localization, control systems and path planning.

It is focused on developing the necessary understanding and technical skills to create an autonomous vehicle able to drive safely in public roads.

## 2010-2014 DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATION ENGINEERING -

*Specialty in embedded system and Real-Time computing*. Universitat Politècnica de València. (Spain)

Final thesis (**A grade**): Cross-platform Qt application for the automatic control of liquids tank. QML, C++

## 2014 SPRING SEMESTER ERASMUS SCHOLARSHIP

Faculty of Electrical Engineering. České vysoké učení technické v Praze. Prague (Czech Republic)

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## OTHER SIDE PROJECTS

- Telegram bot to detect and classify fish species from photos. Telegram API, Python, Tensorflow.
  - Autonomous maritime drone. Raspberry Pi, C++, Python, Qt, QML, 3D modeling & printing.
  - Vehicle detection & tracking with OpenCV and deep learning approaches. Python, OpenCV, Keras, Machine learning.
  - Lane detection in the road using computer vision techniques. Python, OpenCV.
  - Traffic sign identification and classification. Python, Tensorflow, OpenCV.
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