

# Miquel Martí

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## CONTACT



**Full name:** Miquel Martí i Rabadán

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**Birthplace:** Barcelona, Spain

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## LANGUAGES

- **Catalan & Spanish** Native
- **English** Full professional proficiency, CEFR C2
- **Swedish** Elementary proficiency, CEFR B1+
- **French** Elementary proficiency, CEFR B1

## SKILLS

UNIX/Linux • Windows • Git(Hub)  
Python • Matlab • C++  
L<sup>A</sup>T<sub>E</sub>X • Java • Bash  
SciPy • ROS • Gazebo • OpenCV  
Keras • TensorFlow • Caffe  
Hadoop • RaspberryPi • JetsonTX1

## COURSEWORK

Machine Learning • Image Based Recognition and Classification • Artificial Intelligence and Multi-Agent Systems • Image Analysis and Computer Vision • Bayesian Filtering • Image Processing • Digital and Statistical Signal Processing • Audio and Video Encoding • Hybrid and Embedded Control Systems • Modelling of Dynamical Systems • Computational Investing • Remote Sensing • Wireless Systems • Distributed Systems • Concurrent programming • Embedded Systems

## EDUCATION

### KTH - ROYAL INSTITUTE OF TECHNOLOGY

*School of Electrical Engineering*

#### MSc IN ELECTRICAL ENGINEERING

Aug 2015 - June 2017 | Stockholm, Sweden

*Civilingenjörsexamen.* Double Degree program UPC-KTH. Following MSc in Systems, Control and Robotics, track in Robotics and Autonomous Systems.

GPA: 3.4 / 4.0

### UPC - TECHNICAL UNIVERSITY OF CATALONIA

*ETSETB - TelecomBCN*

#### MSc IN TELECOMMUNICATIONS ENGINEERING

Sep 2014 - June 2017 | Barcelona, Spain

Double Degree program UPC-KTH. Minor in Networked Systems, Top 5%

Grade: 8.9 / 10

#### BENG IN SCIENCE AND TECHNOLOGY OF TELECOMMUNICATIONS

Sep 2010 - June 2014 | Barcelona, Spain

Top 5%, Recognition for outstanding academic achievement

Grade: 7.4 / 10

## EXPERIENCE

### UNIVRSES | DEEP LEARNING AND COMPUTER VISION ENGINEER

Sep 2017 - Present | Stockholm, Sweden

### NATIONAL INSTITUTE OF INFORMATICS | RESEARCH INTERN

Oct 2016 - April 2017 | Tokyo, Japan

- Implementation and adaption of state-of-the-art deep learning models for Semantic Segmentation and Object Detection from UAV imagery.
- Creation of a dataset for Action Detection from UAV imagery.
- Master's Thesis: *Multi-task deep learning models for real-time deployment in embedded systems*

### INTERMODALICS | ROBOTICS INTERN

June 2016 - Oct 2016 | Leuven, Belgium

- Development of an industrial mobile manipulator based on an omnidirectional base and a UR10 robotic arm for picking diverse objects.
- The project made extensive use of ROS and included 3D vision using Pick-it camera, navigation and motion planning for the arm.

### EVERIS | BIG DATA CENTER OF EXCELLENCE INTERN

Feb 2015 - Aug 2015 | Barcelona, Spain

- Analysis of tools, definition of use cases and architectures.
- Implementation of POCs/demos of BigData tools inside and outside the Hadoop ecosystem, e.g. Flume, Kafka, RabbitMQ, Spark, MapReduce.

### ITNOW! | OPERATIONAL QUALITY & AVAILABILITY ASSURANCE INTERN

Apr 2013 - Oct 2013 | Barcelona, Spain

- Implementation of ITIL methodologies in CaixaBank LAN Department
- Diverse management tasks: inventory, incidences, reporting, SLAs...

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## AWARDS & ACTIVITIES

- 2016 - Winner of Smart Cities Green Hackathon, Stockholm, Sweden.
- 2015 - Winner of Global Urban Datafest Smart Cities Hackathon BCN, Barcelona, Spain.
- 2014 - Winner of European BEST Engineering Competition in the Team Design category, Barcelona, Spain.
- 2014 - Everis scholarship covering the MSc first year enrollment expenses.
- 2009 - Participant at Model United Nations of Goldberg, Germany.

## PROJECTS

### COMPARING DIFFERENT LOSS FUNCTIONS IN IMAGE CLASSIFICATION

May 2016 - June 2016 | Stockholm, Sweden

*Course Project* Study on the effect of using different loss functions on the convergence speed and final accuracy of a model for image classification. A fully convolutional neural network model was trained on the CIFAR-10 dataset using Keras on TensorFlow in AWS.

### LAWN MOWER SEARCH & RESCUE

Jan 2016 - June 2016 | Stockholm, Sweden

*Course Project* Simple Search & Rescue solution in simulation using ROS and Gazebo. A team of robots equipped with a simple ranging sensor finds the victims in an unknown map and brings them to a safe area when located.

### MTP TELECOM COMPETITION | TEAM LEADER AND MANAGER

Feb 2015 - June 2015 | Barcelona, Spain

*Course Project* Lead a team of 8 students in the design and implementation of a radio link between two devices, including electronics, protocol and software. Lead the project definition, kept track of the progress, expenses and resources and coordinated the team.

### EFFECTS FOR AUGMENTED REALITY AUDIO (ARA) HEADSETS | BACHELOR'S THESIS

Jan 2014 - July 2014 | Espoo, Finland

Implemented a digital, real-time all-pass hear-through system for an ARA headset and a Matlab real-time program for the evaluation of different sound effects in ARA applications.

### UPC NANOSAT LAB | PAYLOADS SUBSYSTEM LEADER

Sep 2013 - Jan 2014 | Barcelona, Spain

Lead the integration of different scientific payloads in the 3Cat-1, a 10x10x10cm nano-satellite. Designed, implemented and tested a deployment system for a wireless power transfer experimental payload, a temperature sensor for calibration of a graphene transistor and worked together with the system integrator for the physical integration of all the subsystems into the tiny satellite.

## PUBLICATIONS

### OKUTAMA-ACTION: AN AERIAL VIEW VIDEO DATASET FOR CONCURRENT HUMAN ACTION DETECTION | MOHAMMADAIN BAREKATAIN, MIQUEL MARTÍ ET AL. COMPUTER VISION AND PATTERN

RECOGNITION WORKSHOPS (CVPRW) 2017

July 2017 | Honolulu, Hawaii

### A MULTITASK DEEP LEARNING MODEL FOR REAL-TIME DEPLOYMENT IN EMBEDDED SYSTEMS |

MIQUEL MARTÍ AND ATSUTO MAKI. SWEDISH SYMPOSIUM ON DEEP LEARNING (SSDL) 2017

June 2017 | Stockholm, Sweden

### SITUATION AWARENESS FOR UAVS USING DEEP LEARNING TECHNIQUES | MIQUEL MARTÍ ET AL. SIG-AGI 2017

March 2017 | Tokyo, Japan

### EVALUATION AND SIMULATION OF HEADPHONE CHARACTERISTICS THROUGH ACOUSTIC MEASUREMENTS | JUSSI RÄMÖ, MIQUEL MARTÍ ET AL. BALTIC-NORDIC ACOUSTIC MEETING (BNAM) 2014

June 2014 | Tallinn, Estonia