Miquel Martí

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CONTACT

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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++
LaTeX • Java • Bash
SciPy • ROS • Gazebo • OpenCV
Keras • TensorFlow • Caffe

COURSEWORK

Machine Learning • Deep Learning • Artificial Intelligence and Multi-Agent Systems • Image Analysis and Computer Vision • Bayesian Filtering • Image Processing • Digital and Statistical Signal Processing • Hybrid and Embedded Control Systems • Modelling of Dynamical Systems • Remote Sensing • Wireless Systems • Distributed Systems • Concurrent programming

HOBBIES

Running • Coffee • Getting lost
Sushi • Rooftops • Snowboard

EDUCATION

KTH - ROYAL INSTITUTE OF TECHNOLOGY

School of Electrical Engineering
MSc in Electrical Engineering
Expected 2015-2017 | 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
Expected 2014-2017 | Barcelona, Spain
Double Degree program UPC-KTH
Focus in Networked Systems, Top 5%
Grade: 8.5 / 10
BEng in Science and Technology of Telecommunications
2010-2014 | Barcelona, Spain
Top 5%, Recognition for outstanding academic achievement
Bachelor's Thesis during exchange at Aalto University, Finland.
Grade: 7.4 / 10

EXPERIENCE

NATIONAL INSTITUTE OF INFORMATICS | Research Intern

Oct 2016 – Present | Tokyo, Japan

- Master's Thesis: Development of a light, multi-task Deep Learning model for semantic segmentation and multiple object tracking from UAV imagery for the real-time creation of Shared Dynamic Maps.

INTERMODALICS | Robotics Intern

June 2016 – Oct 2016 | Leuven, Belgium

- Industrial mobile manipulator based on a Clearpath Ridgeback 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. Esper CEP, Flume, Kafka, RabbitMQ, Spark, MapReduce.

ITNOW! | Operational Quality & Availability Assurance Intern

Apr 2013 – Oct 13 | Barcelona, Spain

- Implementation of ITIL methodologies in CaixaBank LAN Department
- Management of inventory, incidences and transition between SW tools
- Support to managers with reporting and SLA control

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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

For the course *Image Based Recognition and Classification* at KTH, studied 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. The project was developed using Keras on Theano in an AWS EC2 instance with GPU.

LAWN MOWER SEARCH & RESCUE

Jan 2016 - June 2016 | Stockholm, Sweden

For the project course *Artificial Intelligence and Multi-Agent Systems* at KTH, developed together with a teammate a simple Search & Rescue solution in simulation using ROS and Gazebo. A team of 3 lawn mowers robots equipped with a simple ranging sensor and controlled by a mastermind first performs the search operation in an unknown environment which is also roughly mapped. The environment is defined as a potential field in which the robots must follow a path of local maxima (unseen areas) in order to efficiently explore the whole area. As soon as the victims are located the team starts the rescue operation by pushing the victim to a safe area in the map while keeping an adaptable and dynamic cage formation.

MTP TELECOM COMPETITION | Team leader and manager

Feb 2015 – June 2015 | Barcelona, Spain

As part of the course *Management of Telecommunication Projects* at UPC, lead a team of 8 students in a competition consisting in the design and implementation of a radio link between a pair of devices. The use of common communication standards and transceivers was forbidden. Lead in the definition of the project, kept track of the progress, controlled expenses and resources available and coordinated the different sub-teams.

BACHELOR'S THESIS | Aalto University Signal Processing and Acoustics Dep.

Jan 2014 – July 2014 | Espoo, Finland

Bachelor's Thesis *Effects for Augmented Reality Audio (ARA) headsets* under the supervision of PhD Jussi Rämö and Prof Vesa Välimäki. 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. Collaborated in performing acoustic measurements of headsets in an anechoic chamber and co-authored and presented a paper at BNAM conference.

UPC NANOSAT LAB | Payloads subsystem leader

Sep 2013 – Jan 2014 | Barcelona, Spain

Lead the integration of different scientific payloads in the 3Cat-1 nano-satellite. Designed, implemented and tested a deployment system for a couple of coils part of a wireless power transfer experimental payload, designed a temperature sensor based on an NTC thermistor for calibration of the graphene transistor experimental payload and worked closely with the system integrator for the physical integration of all the subsystems into a 10x10x10cm nano-satellite.

PUBLICATIONS

EVALUATION AND SIMULATION OF HEADPHONE CHARACTERISTICS THROUGH ACOUSTIC MEASUREMENTS | Jussi Rämö, Miquel Martí, Vesa Välimäki. Baltic-Nordic Acoustic Meeting (BNAM) 2014

June 2014 | Tallinn, Estonia