

# Carlos Gálvez

## PERSONAL INFORMATION

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DATE OF BIRTH	December 29 <sup>th</sup> 1991
NATIONALITY	Spanish
ADDRESS	Prinsgatan 11, Lgh 1401, 413 05 Gothenburg, Sweden
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## EDUCATION

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OCT 2016 - PRESENT	<b>Self-Driving Car Engineer Nanodegree</b> UDACITY Deep Learning, Computer Vision, Sensor Fusion, Localization and Mapping, Control.
AUG 2013 - JUN 2015	<b>Systems, Control and Robotics, MSc</b> KTH ROYAL INSTITUTE OF TECHNOLOGY, Stockholm, Sweden. Master's Thesis on Sensor Fusion for Autonomous Driving [1]. Advisor: Prof. John FOLKESSON, Examiner: Prof. Patric JENSELT. GPA: A.
AUG 2013 - JUN 2015	<b>Civilingenjörsutbildning, MSc Electrical Engineering</b> KTH ROYAL INSTITUTE OF TECHNOLOGY, Stockholm, Sweden.
JUL 2014 - AUG 2014	<b>Tohoku University Engineering Summer Programme (TESP)</b> TOHOKU UNIVERSITY, Sendai, Japan. Lectures and seminars related to Robotics. Project: lidar-based obstacle avoidance.
SEP 2009 - JUN 2015	<b>Telecommunication Engineering, (5-year programme, MSc accredited by ABET)</b> E.T.S.I. TELECOMUNICACIÓN, UNIVERSIDAD POLITÉCNICA DE MADRID, Spain. GPA: 9.20/10.0

## EXPERIENCE

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AUG 2015 - PRESENT	<b>Software Developer - Sensor Fusion</b> at VOLVO CAR CORPORATION, Sweden Development of algorithms for sensor data fusion, including lidar, radar and camera, in the context of Volvo Cars' autonomous driving project <i>Drive Me</i> . Experience in high-performance computing, safety-critical code as well as the ISO 26262 standard. Agile development and continuous integration workflow.
JUN 2014 - JUL 2014	<b>Research Engineer</b> at COMPUTER VISION AND ACTIVE PERCEPTION LAB, KTH, Sweden Development of an autonomous robot to perform 3D mapping with Kinect-like cameras in hardly accesible environments. Based on ROS, OpenCV and PCL.
OCT 2012 - OCT 2013	<b>Fellowship</b> at SIGNALS AND SYSTEMS DEPARTMENT, ETSIT-UPM, Spain Development of a vision-based parking occupancy estimation system, using OpenCV and Qt libraries. Involved in the national project <i>Ciudad 2020</i> , related to smart cities. Scientific paper published at IET-ITS [2].
OCT 2011 - OCT 2012	<b>Fellowship</b> at ELECTRICAL ENGINEERING DEPARTMENT, ETSIT-UPM, Spain Development and integration of a new educational hardware platform for the study of ARM microcontrollers at the Electronic Systems Laboratory.
OCT 2009 - OCT 2010	<b>Fellowship</b> at TELEMATIC ENGINEERING DEPARTMENT, ETSIT-UPM, Spain Design of an optical handwritten character recognition system (OCR), with the aim of automatizing various teaching and administrative tasks.

## PROJECTS

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SEP 2015 - PRESENT	<b>Autonomous quadcopter.</b> Based on Arduino Mega 2560 and Raspberry Pi 2.
MAR 2015 - JUN 2015	<b>Face detector.</b> Image-based, combining Adaboost and Deep Learning. Project for the course <i>Image Recognition and Classification</i> .
OCT 2014 - DEC 2014	<b>Maze exploration robot.</b> Control, 3D object recognition, mapping, localization and planning. Project for the course <i>Robotics and Autonomous Systems</i> .
SEP 2012 - JAN 2013	<b>Augmented Reality mobile application.</b> Real-time visual tracking and control of robots. Special Project for the course <i>Digital Electronics Systems Laboratory</i> .
JAN 2012 - JUN 2012	<b>Line-following robot.</b> Participation in Robotech-UPM and Campus Party robotic competitions.
SEP 2011 - JAN 2012	<b>Adversarial learning through genetic algorithms.</b> Predator-prey robot learning simulation. Project for the course <i>Introduction to Intelligent Robotics</i> .

## HONOURS AND AWARDS

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2015	Winner of the robot contest for the course <i>Robotics and Autonomous Systems</i> .
2009 - 2013	Extraordinary Academic Performance Scholarship (Madrid Government).
2009	Highest Honours in High School. Best academic record (GPA: 10.0/10.0).

## LANGUAGES

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SPANISH:	Mothertongue	
ENGLISH:	Fluent	TOEFL iBT: 110/120, September 2012 (Spain)
SWEDISH:	Advanced	CEFR: B2, June 2015 (Sweden)

## COMPUTER SKILLS

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PROFICIENT	C/C++, Python, MATLAB & SIMULINK, OpenCV, PCL, ROS
INTERMEDIATE	Java, CMake, OpenGL, OpenCL, CUDA, Qt, Bash, Git, Gerrit, $\LaTeX$ , Linux
BASIC	HTML, CSS, JavaScript, J2EE, SQL, Android, ASM, VHDL

GitHub repository: <https://github.com/carlosgalvezp>

## INTERESTS

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Travelling, photography, hiking, cycling, reading, movies, music.  
Learning through online courses (MOOC): Coursera, Udacity, edX, etc.

## PUBLICATIONS

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- [1] **C. Gálvez.** “Grid-Based Multi-Sensor Fusion for On-Road Obstacle Detection: Application to Autonomous Driving”. M.S. Thesis. KTH, Computer Vision and Active Perception, CVAP, 2015.
- [2] **C. Gálvez, J. Torres, and J. M. Menéndez.** “Vacant parking area estimation through background subtraction and transience map analysis”. In: *IET Intelligent Transport Systems* 9.9 (2015), pp. 835–841.