Carlos Gálvez

Personal Information

Date of Birth	December 29th 1991
Nationality	Spanish
Address	Nordostpassagen 23 Lgh 1203, 413 11 Gothenburg, Sweden
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Education

Aug 2013 - Jun 2015 — **Systems, Control and Robotics, Msc**
KTH Royal Institute of Technology, Stockholm, Sweden.
Master's Thesis on Sensor Fusion for Autonomous Driving [1].
Advisor: Prof. John Folkesson, Examiner: Prof. Patric Jensfelt. GPA: A.

Aug 2013 - Jun 2015 — **Civilingenjörsutbilding, MSc Electrical Engineering**
KTH Royal Institute of Technology, Stockholm, Sweden.

Jul 2014 - Aug 2014 — **Tohoku University Engineering Summer Programme (TESP)**
Tohoku University, Sendai, Japan.
Lectures and seminars related to robotics. Project: lidar-based obstacle avoidance.

Sep 2009 - Jun 2015 — **Telecommunication Engineering, (5-year programme, MSc accredited by ABET)**
E.T.S.I. Telecomunicación, Universidad Politécnica de Madrid, Spain.
GPA: 9.20/10.0

Experience

Aug 2015 - Present — **Software Developer - Sensor Fusion** 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 *Drive Me*. Experience in high-perfomance computing, safety-critical code as well as the ISO 26262 standard. Agile development and continuous integration workflow.

Jun 2014 - Jul 2014 — **Research Engineer** 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 — **Fellowship** at Signals and Systems Department, ETSIT-UPM, Spain
Development of an vision-based parking occupancy estimation system, using OpenCV and Qt libraries. Involved in the national project "Ciudad 2020". Scientific paper published at IET-ITS [2].

Oct 2011 - Oct 2012 — **Fellowship** 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 — **Fellowship** 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

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

HONOURS AND AWARDS

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

LANGUAGES

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

COMPUTER SKILLS

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

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

INTERESTS

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

PUBLICATIONS

[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.