Carlos Gálvez

Personal Information

Date of Birth	December 29th 1991
Nationality	Spanish
Address	Prinsgatan 11, Lgh 1401, 413 05 Gothenburg, Sweden
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Education

Oct 2016 - Present — **Self-Driving Car Engineer Nanodegree**
Udacity.
Deep Learning, Computer Vision, Sensor Fusion, Localization and Mapping, Control.

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 RGBD 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 a vision-based parking occupancy estimation system, using OpenCV and Qt libraries. Involved in the national project *Ciudad 2020*, related to smart cities. 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 (GPA: 10.0/10.0).

LANGUAGES

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

COMPUTER SKILLS

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

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.