Daniel Martínez Capilla

C/Guillem de Bonadona, 7

17255 Begur (Girona) – SPAIN

Age:	23
Phone Contact:	(+34) 626 28 6636 - SPAIN (Mobile)
	(+34) 972 62 2975 - SPAIN (Home)
	(+1) 865 221 6243 - U.S.A
Email:	dani89mc@gmail.com
Webpage:	http://www.dani89mc.com

EDUCATION

Master's Degree: **Erasmus Mundus Masters VIBOT (computer VIsion and roBOTics)**   *2010 – June 2012*

First semester:	Heriot-Watt University (Edinburgh, Scotland)
Second semester:	Universitat de Girona (Girona, Spain)
Third semester:	Université de Bourgogne (Le Creusot, France)
Forth semester:	University of Tennessee (Knoxville, U.S.A)

Bachelor's Degree: **Computer Systems Engineering**   *Sep 2007 – June 2010*

Universitat de Girona (Girona, Spain)

LANGUAGE SKILLS

Mother tongues: Spanish

Catalan

Other languages: English

French

	Understanding		Speaking	Writing
	Listening	*Reading*		
English	Proficient	Proficient	Proficient	Proficient
French	Proficient	Proficient	Intermediate	Basic

TECHNICAL SKILLS

Programming languages:	C++, C, MATLAB, Qt (GUI), Java, HTML, Latex, VAL3 (Stäubli Programming Language), MRL (Mitsubishi Programming Language)
Libraries:	OpenCV, PRTools, PCL, OpenNI, DK Design Tools, PixelStreams
Operative Systems:	Windows, Linux
Embedded Systems:	Handle C, 8086 assembler

RESEARCH EXPERIENCE

Master Thesis:

2012:	Title:	**Sign Language Translator using Microsoft Kinect XBOX 360**
	Place:	University of Tennessee (Knoxville – USA) - Department of Electrical Engineering and Computer Science – Computer Vision Lab.
	Supervisors:	Dr. Hairong Qi (http://www.eecs.utk.edu/people/faculty/fulltime/qi/main),
		Dr. Fabrice Meriaudeau (http://le2i.cnrs.fr/-Fabrice-Meriaudeau-?lang=fr).
	Description:	Sign language is the basic communication method for deaf people. Several dictionaries of signs have been defined to make this communication possible. The goal of the project consists of developing an automated sign language translator which would enable a computer to automatically interpret signs made by the user in front of the camera. Other works have been proposed previously, however they mostly make use of probabilistic models such as Hidden Markov Models or Artificial Neural Networks classifiers. In this thesis, the Microsoft Kinect XBOX 360™ is proposed to solve the sign language translation problem with the combination of much simpler descriptors and classifiers.

Other projects:

2012:   **Multi-resolution Shape Characterization using Gielis Curves:** 3D image reconstruction using SuperShapes optimization. – D.Martínez, S.Valverde, B.Pèlach, Dr.Y.Fougerolle – *VIBOT framework*.

2012:   **3D Holography:** Computer generated holography for 3D object display. – D.Martínez, S.Valverde, B.Pèlach, Dr.C.Stolz – *VIBOT framework*.

2011:   **Real Time Multimedia Skype Client:** An augmented reality application to control the Skype interface with the use of a marker - D.Martínez, R.Klapfer, Dr. Robert Martí – *VIBOT framework*.

2011:   **Real Time Object Tracking:** A visual tracking framework. Comparative study focusing Mean-Shift algorithm and various Bayesian filters – D.Martínez, S.Valverde, B.Pèlach, Dr.D Sibide – *VIBOT framework*.

2011:   **Heart Imaging Analysis:** 3D/4D representation of blood flow in the thoracic aorta from cine-MRI Images – D.Martínez, S.Valverde, Dr.Paul Walker – *VIBOT framework*.

2011:   **Neurological Disease Analysis using Unsupervised Neural Networks Techniques** – D.Martínez, S.Valverde, Dr.E.Thomas – *VIBOT framework*.

2011:   **Wavelets and Fractal Dimension:** Application of wavelets and fractal dimension in gait Analysis – D.Martínez, S.Valverde, Dr.F.Truchetet – *VIBOT framework*.

2011:   **Corner Detectors Study:** Implementation and Comparative Study of various Corner Detectors – D.Martínez, Dr.R.García – *VIBOT framework*.

2011:   **PASCAL Project:** Visual object classification challenge, 10 image object classification problem – D.Martínez, M.Ehsanul Karim, Dr.Jordi Freixenet, Dr.Xavier Lladó – *VIBOT framework*.

2011:   **Study and Implementation of Path Planning Algorithms using the WEBOT Robotic Platform** – D.Martínez, Dr.P.Ridao – *VIBOT framework*.

2011:   **Modelling and Simulation: Comparative study of Bayesian filters in localizing a mobile robot** – D.Martínez, Dr.P.Ridao – *VIBOT framework*.

2011:   **Stäubli Security System Proposal:** Design a security system for the University Stäubli robot. Integration of two security curtains in the setup – D.Martínez, S.Valverde, Dr.X.Cufí – *VIBOT framework*.

2010:   **Hyperspectral Image Classification:** Comparative study of machine learning algorithms in classifying hyper spectral images – D.Martínez, Dr.A.Wallace – *VIBOT framework*.

2010:   **The Van Gogh Robot:** Automated Portrait Generation using Stäubli robot – D.Martínez, Dr.J.Freixenet, Dr.A.Oliver - *Senior design project, undergraduate thesis project.*

RELEVANT COURSEWORK

M.Sc. Studies: Data Mining and Machine Learning, Digital Signal Processing, Image Processing, Scientific writing in English, Autonomous Robots, Fundamentals of Robotics, Real time Image Processing, Scene Segmentation and Interpretation, Visual Perception, Advanced Image Analysis, Wavelets, Pattern Recognition, Medical Imaging, Biological Basis of Medical Imaging, Human Vision, Infrared Polarization and Physics, 3D Digitalization, Gesture Recognition.

Undergraduate Studies: Structure and Technology of Computers, Physics, Introduction to Database, Mathematics, Programming Methodology and Techniques, Introduction to Logic, Electronics, Operating Systems, Computer Networks, Systems Engineering, Software Engineering, Statistics, Digital Signal Processing, Introduction to Image Processing, Advanced Architectures of Computers, Artificial Intelligence, Robotics, Sensors.

AWARDS

2010 – 2012: **Erasmus Mundus Scholarship from the European Commission**

Awarded with 20.000€ by the European Commission to study the *EM in Computer Vision and Robotics Master (VIBOT)*.

Feb - June 2012: **Mobility grant from the Conseil Régional de la Bourgogne**.

Grant that supported the mobility expenses during the semester that I spent at the University of Tennessee doing my Master Thesis. Provided by the Conseil Régional de la Bourgogne (France).

EXPERIENCE

Company: Radio Begur (Begur, Spain)   *Period: 2003-2004*

Position held: Sports programme presenter

Note: A weekly programme during the two football seasons.

Company: Associació Esportiva Begur   (Begur, Spain)   *Period: 2003-2007*

Position held: Football (soccer) coach

Note: Kids aged from 4 to 8 years old.

Company: Taller Campasols S.C. (Begur, Spain)   *Period: 2004-2006 (summer)*

Position held: Administrative

Company: Hotel Aiguablava S.A. **** (Begur, Spain)   *Period: 2007-2011 (summer)*

Position held: Waiter

HOBBIES

Football player (captained C.F.Begur team)   *Period: 1996-2010*

Horsemanship: Horses care and riding at our farm.   *Period: since 2004*

Theatre: Acting in an amateur theatre company called "Els Indianos de Begur".   *Period: 2000-2007*

PERSONAL STATEMENT

I consider myself to be highly motivated and believe in being pro-active and positive-minded. Furthermore, I am eager to explore, enthusiastic in fulfilling commitment, keenly interested in learning and open to changes. These traits, along with my ability to integrate into a team seamlessly, are the ingredients I profess in seeing my commitments through.

REFERENCES

Dr. Robert Martí - Professor at Universitat de Girona and VIBOT MSc   *Email:* marly@eia.udg.edu

Dr. Joaquim Salvi – Director EPS. Professor at Universitat de Girona and VIBOT MSc   *Email:* qsalvi@eia.udg.edu

Dr. David Fofi – Course coordinator and professor of the VIBOT MSc at U.Bourgogne   *Email:* David.Fofi@u-bourgogne.fr

Dr. Hairong Qi – Professor at the University of Tennessee (Knoxville)   *Email:* hairong.qi@gmail.com / hqi@utk.edu