CURRICULUM VITAE

PERSONAL INFORMATION

First Name /Surname: **Domingo ESTEBAN**
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SUMMARY

Robotics researcher with a M.Sc. in Robotics and Automation, a B.Sc. in Industrial Engineering and a B.Sc. in Economics and Business. Research interests include: humanoid robots, robot Learning, probabilistic robotics, autonomous mobile robots, motion planning and robot simulation.

Experience in design and development of software and its application in robotics. Knowledge of modelling and simulation, artificial intelligence, machine learning, computer vision, task planning, motion planning, and kinematics/dynamics control in robots.

Knowledge and experience in: GNU/Linux, programming languages (C/C++, Python, Visual Basic and Java), version control systems, real-time operating systems, Matlab/Octave, Simulink, ROS and robotics simulation software (Gazebo, Webots, RobotStudio, Blender/Physics).

EDUCATION

- **M.Sc. in Robotics and Automation**
  University: Universidad Carlos III de Madrid. Madrid-Spain
  Department: System Engineering and Automation Department
  Period: 2012 – 2014

- **B.Sc. in Industrial Engineering**
  University: Universidad Nacional de San Agustín – UNSA. Arequipa - Peru
  Department: Industrial Engineering School
  Period: 2004 – 2009

- **B.Sc. in Economics and Business**
  University: Universidad Católica San Pablo – UCSP. Arequipa - Peru
  Department: Business Administration Program
  Period: 2006 – 2010

PUBLICATIONS

- Martínez, Santiago; Esteban, Domingo; Jardón Huete, Alberto; Balaguer, Carlos "**Anticipative Humanoid Postural Control System for Locomotive Tasks**", In Proc. IEEE Intl Conf. on Humanoid Robots (Humanoids 2014), Madrid, Spain, 2014.

- Esteban, Domingo "**Whole-body trajectory generation for a humanoid robot**", Msc thesis, Universidad Carlos III de Madrid, Spain, 2014.

WORK EXPERIENCE

- **IXION Industry and Aerospace (Madrid-Spain)**
  Robotics and Automation Intern
  06/2013 – Now
    - Design, programming and implementation of locomotion, perception, localization, SLAM and motion planning algorithms for the autonomous robots of the company: unmanned multi-rotors vehicles (UAS), unmanned ground vehicles (UGV) and autonomous underwater vehicles (AUV) in ROS.
    - Programming of navigation algorithms of autopilot system in real-time embedded systems.
    - Programming and implementation of Hardware-in-the-loop (HIL) simulation systems for the navigation of autonomous robots.
    - Design and development of computer programs in C, C++ and Python.
    - Development and wrapping of sensor drivers in real-time embedded systems.
    - Datagram and stream sockets programming.
    - Development of shell scripts for GNU/Linux Operating Systems.
    - 3D modelling of autonomous robots and indoor/outdoor environments.
    - Simulation of autonomous mobile robots.

- **Universidad Carlos III de Madrid (Leganés-Spain)**
  Humanoids Group collaborator
  03/2013 – Now
    - Design and development of ROS nodes in C++ and Python.
    - Design, programming and implementation of whole-body trajectory generation algorithms for TEO, the full-size humanoid robot of the Humanoids group.
    - Development of a MATLAB® graphical user interface (GUI) for the generation of whole-body trajectories for TEO humanoid robot.
    - Simulation of a humanoid robot in Gazebo simulator.
    - Development of shell scripts for GNU/Linux Operating Systems.

SPECIALIZED KNOWLEDGE

Applications software design and development, embedded software development, modelling and simulation of systems, autonomous vehicles navigation, robot planning, robot programming, robot control, humanoid robots, machine learning.

TECHNICAL SKILLS

- *Applications*
  - MATLAB/Simulink
  - ROS
  - Gazebo Simulator
  - IDEs: Eclipse CDT, QtCreator, Keil, CodeBlocks, Vim and Sublime Text
  - Version control systems (VCS): Git, Subversion and Mercurial
- *Programming languages*
  - C, C++
  - MATLAB/Octave
  - Python
  - Shell Scripting
  - RAPID
  - Java
  - Visual Basic
  - HTML, CSS

LANGUAGE SKILLS

- **Spanish:** Native language
- **English:** Centro de Idiomas de la Universidad Católica San Pablo
  - Understanding: B2 - Intermediate
  - Speaking: B2 - Intermediate
  - Writing: B2 - Intermediate
- **French:** Alliance Française d'Arequipa
  - Understanding: B1 - Intermediate
  - Speaking: B1 - Intermediate
  - Writing: B1 - Intermediate

REFERENCES

- **Santiago Martínez de la Casa, PhD.** Assistant Professor. Humanoids group responsible – RoboticsLab. Universidad Carlos III de Madrid.
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- **Jorge Villagra, PhD.** R&D Project Manager. Ixion Industry and Aerospace, S.L.
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