

CURRICULUM VITAE

Paolo Massioni

PERSONAL DETAILS:

Date of Birth: 10/08/1980
Place of Birth: Milano, Italy
Nationality: Italian
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EDUCATION

- 1999-2005 Politecnico di Milano, Master of Science in Aerospace Engineering**
- Specialisation: Space
 - Main topics: basic sciences, mathematics, calculus, aerodynamics, mechanics, flight dynamics, structures, automated control, space flight dynamics, satellite attitude control, aircraft and space propulsion, space technologies
 - Mark: 100/100 cum laude
- 1994-1999 Liceo Scientifico Albert Einstein, Milano, Diploma of High School**
- Mark: 100/100

SIGNIFICANT ACADEMIC PROJECTS

- September 2004 (8 months) *Thesis:* design, realization and test of control systems for a prototype of hexapod rover. Two different approaches have been applied, a classical one based on inverse kinematics and PID control and a non-standard one based on recurrent artificial neural networks. The control software has been implemented with a real-time version of Linux (RTAI).
- June 2004 (2 months) Design and test of an optimal control system for an inverted pendulum.
- March 2004 (4 months) Team workshop: preliminary design of a swarm of satellites for the automated assembly of in-orbit structures. The spacecrafts were designed to dock with modules left in a LEO and attach them together in an assembly orbit. In charge for the AOCS and project coordinator.
- October 2003 (4 months) Simulation of the attitude dynamics of a GEO satellite under the effect of disturbances and design of a three-axis stabilizing control system (choice of sensors, actuators and algorithms).
- May 2003 (4 months) Preliminary design of an airliner.

PUBLICATIONS

- July 2005 M. Massari, P. Massioni, S. Nebuloni, G. Sangiovanni, F. Bernelli – «Realization and Control of a Prototype of Legged Rover for Planetary Exploration» – IEEE/ASME Conference of Advanced Intelligent Mechatronics 2005.

PROFESSIONAL EXPERIENCE

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| Feb 2006 – present | Politecnico di Milano , Milano, Italy As a research assistant I am involved in the development of a real-time software for Trenitalia (Italian Railways). The module on which I am working executes an on-board failure recognition and identification using methods derived from fuzzy logic. |
| May 2005 – Dec 2005 | ESTEC, European Space Agency , Noordwijk, The Netherlands Traineeship in the robotics section for the preliminary design of a lunar mobility system for manned exploration. The design was developed with attention to the laws of wheel-soil interaction (“terramechanics”), in order to make it suitable for the Moon. Thanks to the experience acquired I have also executed a preliminary evaluation of the ExoMars chassis options and provided support for the latest CDF study on lunar exploration. |

LANGUAGE SKILLS

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| Italian | Mother tongue |
| English | Fluent - used in ESTEC as working language |
| Dutch | Beginner |

COMPUTER SKILLS

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| Operating systems | Windows, Linux, real time Linux (basics) |
| Utilities | Matlab/Simulink, Autocad, Solid Works, Office, Open Office |
| Programming languages | C/C++, Basic, Assembler for microcontrollers |
| Other skills | Real time programming, graphic user interfaces in C++ (Qt), HTML, XML |

INTERESTS AND HOBBIES

Computer generated art, folk music, cooking, homebrewing.