

# Nicola Battilani

## ***Personal data***

Name/Surname Nicola Battilani  
Gender Male  
Date of Birth 02/04/1988  
Nationality Italian  
Address via Boiardo 31, 41043 Formigine (MO)  
Mobile +39 3356025172  
E-mail [nicola.battilani@gmail.com](mailto:nicola.battilani@gmail.com), nicola.battilani@unimore.it

## ***Education***

Period November 2015 - ongoing  
Qualification **PhD in Industrial Innovation Engineering**  
Organization University of Modena and Reggio Emilia  
Title of the phd activity Visual servoing for human robot cooperation in industrial applications

Period October 2011 - April 2014  
Qualification **Master Degree in Mechatronics Engineering**  
Organization University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering  
Characterizing topics Title of the thesis: "Development and implementation of an algorithm for localizing and pick autonomously a pallet". (Sviluppo ed implementazione di un algoritmo per la localizzazione e l'inforcamento automatico di pallet).  
Evaluation 109/110

Period October 2007 - July 2011  
Qualification **Bachelor Degree in Mechatronics Engineering**  
Organization University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering  
Characterizing topics Title of the thesis work: "Implementation of the navigation stack with ROS for the differential drive robot SABOT" (Implementazione dello stack di navigazione in ambiente ROS per il robot mobile differential drive SABOT).  
Evaluation 107/110

Period 2002 - 2007  
Qualification **Qualified technician in electronics and telecommunications**  
Skills Bases of system theory, electronics and telecommunications: theory and applications.  
Evaluation 100/100

## ***Work experience***

Period 01/May/2016 – 31/Oct/2016  
Position Visiting student  
Organization **Inria – team Lagadic**  
Activities Development of a teleoperation system for building a 3D map of an area (e.g. for search and rescue activities).

Period 01/Aug/2014 - 31/Oct/2014  
Position **Research Fellow**  
Organization University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering  
Activities Development of a software object oriented for controlling an automatic machine, within Center for Applied Research and Services on Advanced Mechanics and Engine Design (INTERMECH) of University of Modena and Reggio Emilia in collaboration with Sidel spa, business unit of Mantova (IT).

Period	08/Apr/2014 - 24/Jun/2014
Position	Collaborator
Organization	Consortium for the Future of Research (CFR – <a href="http://www.cieffeerre.it/">http://www.cieffeerre.it/</a> )
Activities	Post-graduate research activity, within <b>Sidel spa</b> , business unit of Mantova (IT). The activities where part of <b>smart HMI filter</b> project, in collaboration with the Consorzio Ferrara Ricerche.
Period	10/Jun/2013 - 07/Apr/2014
Organization	University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering
Project	“Machine learning”, part of the European project PAN-ROBOTS.
Activities	Study of the state of the art literature, of the Machine Learning methodologies; development and implementation of algorithms for localization, focused to the objectives of the thesis. Study of advanced methods from C++ and PCL libraries, for 3D vision sensors interface and data processing. Setup of robot hardware for making it capable of forking pallets. Testing and validate of the developed algorithms. Configuration of a GIT server for the thesis and then used by the whole research group.
Period	25/Oct/2012 - 07/Jun/2013
Qualification	<b>ME310 “Design Thinking and Innovation”</b> Alumnus
Organizations	<b>Stanford University (USA)</b> ; Department of Science and Engineering Methods of Reggio Emilia (Italy); Aalto University (Finland)
Description	ME310 Global is a design innovation course ( <a href="http://me310.stanford.edu">http://me310.stanford.edu</a> ) for products and services design development. My team got a challenge by eFM Facility & Real Estate Management about "Smart Building in smart ecosystem".
Period	01/Apr/2011 - 12/Jul/2011
Organization	University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering
Project	“Robot navigation”.
Activities	Study of <b>navigation algorithm for differential drive mobile robots</b> ; study of ROS framework, of C++ language and of Ubuntu Linux. Software upgrade of the robot used for the thesis work; installation and configuration of Operating system Ubuntu server on top of the robot computer.

### ***Participation to research projects***

Period	10/06/2013 –07/04/2014
Project title	PAN-ROBOTS
Scientific Disciplinary Sector	ING-INF/04
Activities	Implementation of “machine learning” methodologies for processing 3D images from Kinect, for detecting objects.
Period	08/Apr/2014 - 24/Jun/2014
Project title	smart HMI Filter
Scientific Disciplinary Sector	ING-INF/04
Activities	Development of methodologies for simplifying HMI, for an industrial case from Sidel spa, business unit of Mantova.
Period	01/Aug/2014 – 30/Oct/2014
Project title	“Holistic Management of Machine life development” (HOCMAN)
Scientific Disciplinary Sector	ING-INF/04
Activities	Development and implementation of methodologies for design oriented to modular testability of PLC software; the methodologies have been applied to an industrial case from Sidel spa, business unit of Mantova.

### ***Language skills***

Mother language	Italian
Other languages	English: B2

## ***Computer skills***

- Advanced use of linux (debian and ubuntu) and of Microsoft Windows.
- Advanced use of tool for engineering design like Matlab, Solidworks (certificate SOLIDWORKS Associate), Cimatron.
- Programming languages: C, C++, IEC61131-3 languages; good with javascript, html, css.
- Experienced developer for ROS, Orocos.
- Experienced with latex and the main Office suites: MS Office, Libreoffice, Openoffice, Google Drive. Proficient with Word, Excel, Powerpoint or equivalents.
- Experienced with video editing (especially with ffmpeg cli, but also gui editors) and with rasterized and vector graphics (Gimp, Inkscape and similar).
- I have developed some website using cms like Joomla, Wordpress, phpBB.

## ***Publications***

- Giacomo Barbieri, Nicola Battilani, and Cesare Fantuzzi. "A PackML-based Design Pattern for Modular PLC Code." IFAC-PapersOnLine 48, no. 10 (2015): 178-183.
- Valeria Villani, Nicola Battilani, Giulia Lotti and Cesare Fantuzzi. "MyAID: a Troubleshooting Application for Supporting Human Operators in Industrial Environment." Submitted to 13th IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design, and Evaluation of Human-Machine Systems.
- Nicola Battilani, Cesare Fantuzzi and Cristian Secchi. "On the use of haptic feedback for programming visual inspection with eye-in-hand robotic arms". Submitted to 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2016).

## ***Personal interests and attitudes***

- I am passionate about autonomous devices and technology.
- **Team work**
  - I often am involved in teams. It happened in my work, at University, and in many more occasions, like in charities and associations.
- **Education:**
  - from more than ten years I'm committed with group of children in my parrish, and summer camps.
- **Management:**
  - from 2008 to 2012 I had the responsibility of a summer camp of 40/80 children, with about 15 educators.
  - With other people I organised some events, parties; I was involved in the main board of an awesome meeting of children from all my region, about 2000 people.

Updated to: 10/Jun/2016