

Gastone Pietro Rosati Papini

Advanced Control System Engineer | Game & Software & Fullstack Developer | AI Lover



★ tonegas.it [in linkedin.com/in/tonegas](https://in.linkedin.com/in/tonegas) github.com/tonegas
@ gastonepietro.rp@gmail.com g.rosatipapini@sssup.it +39 3334728998
📍 56127, Pisa

Executive Summary Post-doc researcher in advanced control systems at [Percro Laboratory](#) of [Sant'Anna University](#) and co-founder of [Cheros s.r.l.](#). With 5+ years experience in **advanced control systems** and **software/fullstack programming**. Expert in **multi-physics dynamic system**, **model predictive control**, robotics, human-robot interaction, force control, elastic joints, teleoperation, programming languages, **software engineering** and **fullstack applications**. Now focused on development of models and control systems for electroactive polymers for the exploitation of ocean wave energy (polywec.org), deep learning for advance control system (current developer of [PyNet](#) a didactic framework for deep learning) and fullstack developer in [QatHome](#), a web-application for queue management. Game programmer for [MnemosyneGames](#) during free time.

🏆 Awards

August 2013 | IEEE RO-MAN 2013 Best Conference Paper Award, Gyeongju, South Korea
Award for the paper "Haptic Hand-Tremor Simulation for Enhancing Empathy with Disabled Users"

📁 Work Experience at Percro Laboratory of Sant'Anna University of Pisa

- 2016→ | **Research fellow in advance control system and machine learning**
- > Optimal control of dielectric elastomer generator for oscillating water column system (Poly-OWC)
 - > Design of machine learning techniques for identification and control systems
- 📄 [Machine Learning](#) [Optimal control](#) [Model Predictive Control](#) [Multi-physics Modelling](#)
- 💻 [Python](#) [Matlab \(script, Simulink\)](#) [Mathematica](#)
- 2012→ | **Researcher for PolyWEC (Polymeric Wave Energy Converter) European Project**
- > Modelling & control of dielectric elastomer generator for oscillating water column system (Poly-OWC)
 - > Test campaigns on prototypes of Poly-OWC systems
 - > Computer vision of the test results on the Poly-OWC systems
- 📄 [Optimal Control](#) [Model Predictive Control](#) [Multi-physics Modelling](#)
- 💻 [Matlab \(script, Simulink, Stateflow\)](#) [Mathematica](#)
- 2012-2014 | **Researcher for VERITAS (Virtual and Augmented Environments and Realistic User Interactions To achieve Embedded Accessibility DesignS) European Project**
- > Design of control of a haptic interface for stimulation of essential tremor on upper limb
 - > Analysis of experimental data of Parkinson's patients' hands tremor (using Optitrack system)
 - > Validation of control strategy against the experimental data on Parkinson's patients
- 📄 [Haptic control](#) [Human Robot Interaction](#) [Robotics](#)
- 💻 [C++ \(thread, network\)](#) [Python \(numpy, matplotlib\)](#) [Matlab \(script, Simulink\)](#)
- Jun-Nov 2012 | **Research fellow in teleoperation systems and haptic interfaces**
- > Control design for a teleoperated mobile robot through a haptic interface with a force feedback (at Gustavo Stefanini Advanced Robotics Research Center)
 - > User interface designing for a robotic device for upper limb rehabilitation (at Humanware S.r.l.)
- 📄 [Haptic control](#) [Teleoperation](#) [Human Robot Interaction](#) [Robotics](#) [Software Engineering](#)
- 💻 [Javascript](#) [Python](#) [C++ \(thread, network\)](#) [Python \(numpy, matplotlib\)](#) [Matlab \(script, Simulink\)](#)

⚙️ Spinoff Experience at Cheros s.r.l.







- 2014 → | **Co-founder of Cheros s.r.l. spinoff of Scuola Superiore Sant'Anna**
- > Manager and fullstack developer of [QatHome](#) a queue manager system.
- 📄 [Software Engineering](#) [REST application](#)
- 💻 [Javascript](#) [Python \(Django, Rest Framework, Django Test\)](#)

🗣️ Languages

Italian ● ● ● ● ●

English ● ● ● ● ○

Education and Training

2012-2016	Ph.D. in Emerging Digital Technologies at Sant'Anna University Advance control of electroactive polymers for ocean wave energy and control theory of human-robot interaction Thesis : <i>Dynamic Modelling and Control of Dielectric Elastomer Generators for OWC Wave Energy Converter</i>  Haptic control Human Robot Interaction Robotics Optimal Control Model Predictive Control Multi-physics Modelling  C++ (network) Python (numpy, matplotlib) Matlab (script, Simulink, Stateflow) Mathematica
Apr-Nov 2016	Ph.D. period abroad at The University of Edinburgh
Feb-Mar 2015	PhD+ Programme 2015 at University di Pisa
2007-2011	Master's degree in automation engineering at University of Pisa, 110/110 cum laude Thesis : <i>Robust Force Control for Exoskeletons for Human Performance Augmentation</i>  Human Robot Interaction Robotics Elastic Joint Force Control  C++ (multithreading, network) Python (numpy, matplotlib) Matlab (script, Simulink, Stateflow) Mathematica
2004 - 2007	Bachelor's degree in Software Engineering at University of Pisa, 110/110 Thesis : <i>Problems and solutions of multimedia applications on Internet</i>  Dynamic System Machine-Learning Programming Languages Software Engineering  C C++ Java Javascript PHP Matlab Assembly MASM/GAS SQL Verilog HDL
Feb 2007	Certificate of attendance Cisco Certified Network Associate at University di Pisa

Tecnical Skills

Control technique	linear & nonlinear systems analysis and control (SISO and MIMO), robots modelling and control , elastic joints modelling and control, force control, model predictive control , optimal control, teleoperation, actuators and sensors modeling, navigation and guidance systems;
Machine learning	neural networks and deep learning, Q-learning, genetic algorithm, fuzzy logic;
Environment	microcontrollers, multithreading, realtime systems , network systems, routers and switches;
Language	Verilog HDL, assembly MASM/GAS, C, C++, C++11 , Java, Python , LaTeX , Sketch, TikZPGF, SQL, PHP, Javascript, CSS, HTML, Regexp, Modelica, Matlab ;
Framework and library	SDL, OpenGL, GTK+, Qt, jQuery , AngularJS, Django , Django-REST-framework , multithreading POSIX, Node.js, Tensorflow;
Program	Git , Matlab , Simulink , Mathematica , PyCharm, Unity;

Social skills

Team spirit and solidarity experience developed in more of 13 years of Scouting (AGESCI), including two as Scoutmaster, especially in supporting Sarajevo. High capacity of living with others, matured thanks to Scout experience and a 10+ years students cohabitation. Open to understanding different cultural realities, gained during travels and periods abroad. Organisational skills and good team work experience matured thanks to the many projects developed during the University.

Personal Interests

Scoutmaster (AGESCI), Game programming, Web development, Artificial Intelligence, Travelling, Snowboarding, Rock climbing

Personal Project

2017 →	PyNet . A didactic framework for machine learning in Python .
2015 →	Memory³ . A table game based on memory.
2015 →	Currently member of Mnemosyne team as Unity developer.
2011 →	antruling.com . A social website very exclusive in Django & jQuery .
2013	wall2me.com . A web application in Node.js & HTML5 Canvas .
2000	Pinze . Production and editing of short films.

References

Marco Fontana, *Researcher* at **University of Trento**
@ marco.fontana-2@unitn.it

Rocco Vertesy, *Associate Professor* at **University of Bologna**
@ rocco.vertesy@unibo.it