

Simone Silvetti

Curriculum Vitae

Personal Information

First name Simone
Last name Silvetti
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Place and date of birth Rome (Italy), 5 June 1986
Nationality Italian
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Education

November 2014 - Present **PhD in Computer Science.**
University of Udine, via Palladio 8, 33100, Udine, Italy.
Interests: computational modelling and simulation of complex systems.

January 2013 **M.A in Mathematics ("Laurea Specialistica").**
University of Rome "La Sapienza", Piazzale Aldo Moro 5, 00185, Rome, Italy.
Final paper on Mathematical Physics.
Final mark of 110/110.

January 2009 **B.Sc in Mathematics ("Laurea Triennale").**
University of Rome "La Sapienza", Piazzale Aldo Moro 5, 00185, Rome, Italy.
Final Paper on Real Analysis.
Final mark of 110/110 cum laude.

Research Interests

Brief description My research is currently focused on the joint application of quantitative formal methods and machine learning techniques to Verification and Model-based Testing of Complex Systems. I am trying to apply those techniques in the industrial field (mainly Automotive): the idea consists in using Active Learning techniques to test the satisfiability of a set of requirements which could be expressed by using a Temporal Logic. I am also interested in the modeling of Cyber-Physical-Systems and Internet of Things devices which are going to be of paramount importance in the near future. I have also worked on multi-objective optimization (Genetic Algorithms and Bayesian Optimization) and classification algorithms (Support Vector Machines).

Keywords Model Checking, Multi-Objective optimization, Signal Temporal Logic, Machine Learning

Supervisors Prof. Luca Bortolussi (University of Trieste) and Prof. Alberto Policriti (University of Udine)

Work Experiences

11/2014-present **ESTECO S.p.A.**
Padriciano 99, Trieste, Italy - www.esteco.it
Researcher at Numerical Methods Group.
Apprenticeship of higher education and research with the University of Udine

06/2014-11/2014	ESTECO S.p.A. Padriciano 99, Trieste, Italy - www.esteco.it Researcher at Numerical Methods Group.
Research Activity	Development of classification and clustering techniques
06/2013 - 06/2014	AREA Science Park. Padriciano 99, Trieste, Italy - www.area.trieste.it Researcher at Numerical Methods Group of ESTECO S.p.A - www.esteco.it Researches refunded by Area Science Park of Trieste
Research Activity	My research was focused on Support Vector Classification and Response Surface Methods

Publications

- [1] L. Bortolussi, A. Policriti, and S. Silvetti. "Logic-Based Multi-objective Design of Chemical Reaction Networks." International Workshop on Hybrid Systems Biology. Springer International Publishing, 2016
- [2] S. Silvetti, A. Policriti, and L. Bortolussi. "An Active Learning Approach to the Falsification of Black Box Cyber-Physical Systems" arXiv:1705.01879, 2017

Conferences and Summer Schools Attended

- 10/2016 **HSB 2016.**
Workshop on Hybrid System Biology, Grenoble, France
- 09/2016 **RV 2016.**
Summer School on Runtime Verification, Madrid, Spain
- 08/2016 **VTSA 2016.**
Summer School on Verification Technology Systems & Applications, Liège, Belgium
- 05/2015 **VIPS 2015.**
11th VIPS Advanced School on Computer Vision Pattern Recognition and image processing "Advanced Machine Learning: Partially Supervised Learning", Verona, Italy
- 05/2014 **OP 2014.**
SIAM Conference on Optimization, San Diego, USA
- 04/2014 **MLSS 2014 & AISTATS 2014.**
Machine Learning Summer School & International Conference on Artificial Intelligence and Statistics, Reykjavik, Iceland

Conference and Workshop Talks

- 10/2016 "Logic-Based Multi-objective Design of Chemical Reaction Networks." International Workshop on Hybrid Systems Biology, Grenoble, France, 2016
- 10/2016 "Validation of Automotive Control Applications using Formal Methods and metamodeling techniques" International CAE Conference, Parma, Italy, 2016

Languages

Italian	Mother tongue
English	Upper-Intermediate (B2)
German	Beginner (A1.1)

Computer Skills

General	Good knowledge of Microsoft Office Suite and \LaTeX
OS	Linux, Windows and Apple OS X
Programming	Java, Python, JavaScript, C, Bash
Scientific	Matlab/Simulink, Mathematica
Engineering	modeFRONTIER