

Lorenzo Stella

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Professional Experience

Sept. 2015 – Jan. 2016	Visiting PhD student at KU Leuven, Leuven (Belgium). Departement Elektrotechniek (ESAT), Stadius division. www.esat.kuleuven.be/stadius
2013 – now	PhD student at IMT Institute for Advanced Studies Lucca, Lucca (Italy). www.imtlucca.it Convex analysis and numerical methods in convex optimization, with particular focus on splitting methods for the solution of nonsmooth convex composite problems. Applications to optimal control problems, distributed optimization and large-scale problems arising in machine learning, image processing.
2011 – 2012	Research Analyst at COSBI, Trento (Italy). www.cosbi.eu Analysis and simulation of stochastic models in systems biology (PK/PD, metabolic networks). Inference and analysis of gene regulatory networks. Development of tools for stochastic simulation and network analysis in C#, Python and MATLAB languages.

Education

2008 – 2011	MSc in Computer Science, University of Florence, 110/110 cum laude. Thesis, supervised by Prof. Luigi Brugnano: EFFICIENT METHODS FOR THE NUMERICAL SOLUTION OF HAMILTONIAN PROBLEMS Analysis of the effectiveness of numerical methods for differential equations with respect to the preservation of qualitative properties of the simulated system, with particular attention to energy conservation in the case of Hamiltonian systems and to the efficient implementation of such techniques, using a framework developed <i>ad hoc</i> with the C language.
2004 – 2008	BSc in Computer Science, University of Florence, 110/110. Thesis, supervised by Prof. Luigi Brugnano: NUMERICAL METHODS IN LINEAR ALGEBRA WITH APPLICATIONS TO GOOGLE'S PAGERANK

Study of the *random surfer* model and possible approaches to the calculation of the stationary point of the Markov chain associated with it, with the aim of combining modeling and mathematical aspects of the problem with those of its efficient resolution on a computer. The approaches and algorithms presented were compared on the basis of experimental results obtained with MATLAB implementations.

Publications

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| 2014 | <p>Panagiotis Patrinos, Lorenzo Stella, and Alberto Bemporad. Douglas-Rachford splitting: complexity estimates and accelerated variants. <i>Proceedings of the 53rd IEEE Conference on Decision and Control</i>, 2014</p> <p>Panagiotis Patrinos, Lorenzo Stella, and Alberto Bemporad. Forward-backward truncated Newton methods for convex composite optimization. <i>Submitted</i>, 2014</p> |
| 2013 | <p>Marco Scotti, Lorenzo Stella, Emily J. Shearer, and Patrick J. Stover. Modeling cellular compartmentation in one-carbon metabolism. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i>, 2013</p> |

Talks and seminars

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| Jul. 2015 | <p><i>Accelerated L-BFGS for large scale nonsmooth convex optimization</i>, at the 22nd International Symposium on Mathematical Programming (ISMP 2015), Pittsburgh, PA, USA.</p> |
| Dec. 2014 | <p><i>Douglas-Rachford splitting: complexity estimates and accelerated variants</i>, at the 53rd IEEE Conference on Decision and Control (CDC 2014), Los Angeles, CA, USA.</p> |

Scientific and technical skills

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| Mathematics | <p>Linear Algebra, Calculus, Numerical Analysis, Numerical Optimization, Probability, Dynamical Systems.</p> |
| Computer Science | <p>Algorithms, Data Structures, Theoretical Computer Science and Computational Complexity.</p> |
| Programming | <p>Excellent knowledge of C, Python, MATLAB, Java. Good skills in C++, C#. Familiar with Scheme, Haskell, Perl, Fortran.</p> |

Languages

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| Italian | Native |
| English | Fluent |