

# Europass Curriculum Vitae

## Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

**Foschini Luca**

205 Oceano Ave apt. n. 7, 93109, Santa Barbara, CA

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Italian

17 Aug, 1982

## Accepted Publications

1. **H. Yildiz, L. Foschini, J. Hershberger, S. Suri** *Maintaining the Volume of the Union of Boxes and Related Problems*, 19th Annual European Symposium on Algorithms (ESA 2011)
2. **L. Cavedon, L. Foschini, G. Vigna** *Getting the Face Behind the Squares: Reconstructing Pixelized Video Streams*, 5th USENIX Workshop on Offensive Technologies (WOOT 2011)
3. **S. Gauglitz, L. Foschini, M. Turk, T. Höllerer** *Efficiently Selecting Spatially Distributed Keypoints for Visual Tracking*, IEEE International Conference on Image Processing (ICIP 2011)
4. **F. Uyeda, L. Foschini, S. Suri, G. Varghese** *Efficiently Measuring Bandwidth at All Time Scales*, 8th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2011)
5. **L. Foschini, J. Hershberger, S. Suri** *On the Complexity of Time-Dependent Shortest Paths*, 22nd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2011)
6. **C. Buragohain, L. Foschini, S. Suri** *Untangling the Braid: Finding Outliers in a Set of Streams*, SODA Workshop on Algorithm Engineering and Experiments (ALENEX10)
7. **S. Gandhi, L. Foschini, S. Suri** *Space-efficient Online Approximation of Time Series Data: Streams, Amnesia, and Out-of-order*, 26th International Conference on Data Engineering (ICDE2010)
8. **L. Foschini, R. Grossi, A. Gupta, J. S. Vitter** *When indexing equals compression: Experiments with compressing suffix arrays and applications* ACM Transactions on Algorithms 2(4): 611-639 (2006)  
This paper concerns in part the first level degree thesis.
9. **L. Foschini, R. Grossi, A. Gupta, J. S. Vitter** *Fast Compression with a static model in High-Order Entropy* Accepted as a paper at the DCC 2004 (IEEE Data Compression Conference) The paper is a summary and a follow-up of my first Level degree (BS) thesis.
10. **M. Cococcioni, L. Foschini, B. Lazzerini, F. Marcelloni** *Complexity Reduction of Mamdani Fuzzy Systems through Multi-valued Logic Minimization* 2008 IEEE International Conference on Systems, Man and Cybernetics (SMC08)
11. **L. Valcarenghi, L. Foschini, F. Paolucci, F. Cugini, and P. Castoldi** *Topology Discovery Services for Monitoring the Global Grid* Communications Magazine, Optical Control Plane for Grid Networks: Opportunities, Challenges and the Vision, March 2006. This paper concerns in part the first level diploma thesis for the Sant'Anna School of Advanced Studies.
12. **L. Foschini, A. V. Thapliyal, L. Cavallaro, C. Kruegel, G. Vigna** *A Parallel Architecture for Stateful, High-Speed Intrusion Detection* Fourth International Conference on Information Systems Security (ICISS 2008)

13. **A. Gulli, S. Cataudella, L. Foschini** *TC-SocialRank: Ranking the Social Web*, The 6th Workshop on Algorithms and Models for the Web Graph (WAW09)

14. **L. Valcarenghi, F. Paolucci, L. Foschini, F. Cugini, P. Castoldi** *Centralized and Distributed Grid Topology Discovery Service Implementations* Accepted as a Poster at Hot Interconnects 13, (IEEE Symposium on High Performance Interconnects). This poster concerns in part the first level diploma thesis for the Sant'Anna School of Advanced Studies.

## In submission

15. **A. E. Feldmann, L. Foschini** *Balanced Partitions of Trees and Applications*.

## Patents

**Antonio Savona, Antonino Gulli, L. Foschini**, *Systems and methods for selecting and organizing information using temporal clustering* United States Patent: 20070260586

**Antonio Savona, Antonino Gulli, L. Foschini, Giovanni Deretta** *Systems and methods for clustering information* United States Patent: 20090070346

## Awards

- UCSB Dean's fellowship 2011-2012
- Microsoft Student Travel Award to attend the ACM-SIAM Symposium on Discrete Algorithms (SODA11)
- USENIX Student Travel Award to attend the 8th USENIX Symposium on Networked Systems Design and Implementation (NSDI11)
- Full scholarship (room and board) for the full duration of undergraduate and graduate studies at the Sant'Anna School of Advanced Studies, Pisa, Italy as a winner of a nation-wide competition.
- Participation in the XII and XIII International Olympiad in Informatics held in Beijing, China, 2000 and Tampere, Finland, 2001 respectively. Selected as a member of the Italian team in the Italian Olympiad in Informatics
- Full scholarship (room and board) for the full duration of undergraduate and graduate studies at the Sant'Anna School of Advanced Studies, Pisa, Italy as a winner of a nation-wide competition.

## Education and Training

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| Date (from-to)   | <b>Jun. 2011 - Sept. 2011</b>  |
| Name and type of organization providing education and training | Software Engineer and Research Intern, Google. Mentors: Vahab Mirrokni, Eyal Carmi                                 |
| Principal subjects/occupational skills covered                 | Algorithms and techniques for partitioning large graphs  |
| Date (from-to)   | <b>Jul. 2010 - Oct. 2010</b>   |
| Name and type of organization providing education and training | Visiting Researcher, Institut f. Theoretische Informatik, ETH Zürich. Mentor: Prof. Peter Widmayer                 |
| Principal subjects/occupational skills covered                 | Optimization problem, NP-hardness reductions, approximation algorithms   |
| Date (from-to)   | <b>Oct. 2008 - present</b>   |
| Name and type of organization providing education and training | Ph.D. student Department of Computer Science, University of California, Santa Barbara. Advisor: Prof. Subhash Suri |

Principal subjects/occupational skills covered

Data stream algorithms, geometric algorithms, time-dependent shortest path algorithm, approximation algorithms for optimization problems.

Courses taken:

CMPSC 225-Information Theory: A  
CMPSC 235-Computational Geometry: A+  
CMPSC 271-Advanced Distributed System: A  
CMPSC 230-Np-Completeness and Approximation algorithms: A  
CMPSC 240A-Applied Parallel Computing: A+  
CMPSC 290D-Data Mining: A+  
CMPSC 231-Combinatorial Algorithms A+  
CMPSC 263-Modern Programming Languages and Implementation: A  
CMPSC 290A-Classics in Theoretical Computer Science: A  
CMPSC 290D-Querying and Indexing Contemporary Data: A  
GPA: 4.0

Date (from-to)

**Oct. 2005 - Mar. 2006, Oct. 2006 - Dec. 2006**

Name and type of organization providing education and training

Visiting researcher at the Reliable Software Group, University of California, Santa Barbara CA, under the supervision of Professor Giovanni Vigna, UCSB

Principal subjects/occupational skills covered

Network security, distributed stateful rule matching system for intrusion detection

Date (from-to)

**Sept. 2004 - May 2007**

Name and type of organization providing education and training

First-level graduate student attending II level degree course (M.Eng) in computer engineering at the University of Pisa

Principal subjects/occupational skills covered

Computer networks, network security, control theory, database systems, operative systems

Title of qualification awarded

Second-level degree (M.Eng) received in May, 9th, 2007 with the grade of 110/110 cum laude

Date (from-to)

**Sep. 2004 - Jun. 2007**

Name and type of organization providing education and training

First-level graduate student at Sant'Anna school for advanced studies. The full scholarship provided by Sant'Anna has been renewed after a national competition.

Principal subjects/occupational skills covered

Operative systems, real time systems

Title of qualification awarded

Diploma received in June, 28, 2007 with the grade of 100/100.

Date (from-to)

**Oct. 2001 - Jun. 2003**

Name and type of organization providing education and training

Pupil of the Sant'Anna School of advanced Studies. Holding a full scholarship won in a science-Olympiad-like nation-wide competition, ranked 2nd out of 276 participants for 8 positions.

Principal subjects/occupational skills covered

Advanced mathematics (discrete mathematics, variational calculus, frequency domain calculus) advanced statistics (stochastic processes) physics (classical and statistic thermodynamic, classical mechanics, electromagnetism theory) grid computing, neural networks

Title of qualification awarded

Diploma received in June, 7, 2005 with the grade of 100/100 cum laude.

Date (from-to)

**Oct. 2001 - Mar. 2003**

Name and type of organization providing education and training

First-level degree (B.Tech.) student at the University of Pisa in the computer science engineering faculty dept.

Principal subjects/occupational skills covered

Theoretical and applied computer science, applied mathematics, electronics, computer programming, control theory.

Title of qualification awarded

First-level degree (B.Tech.) received in March, 3rd, 2004 with the grade of 110/110 cum laude, a quarter earlier than the minimum course duration. Average mark: 30.5 out of 30 (30 out of 30 cum laude counted as 33)

Date (from-to)

**Sep. 1996 - Jun. 2001**

## Work experience

Date (from-to)

**2007-10-31 - 2009-04-03**

Name and address employer

Ask.com, 555 12th Street Suite 500 Oakland CA 94607 US

Type of business or sector

Web Property

Occupation or position held

Senior Software Engineer

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|--------------------------------------|--|
| Main activities and responsibilities | Development and maintenance of Ask.com's BigNews: (video) news, blog search engine. The engine provides fresh data to Web, Image, News and Q&A search; patent pending. Development of Tina Brown's DailyBeast news engine.                                       |
| Date (from-to)                       | <b>2006-08-02 - 2007-09-30</b>   |
| Name and address employer            | Ask.com (formerly known as Ask jeeves) European R&D Center, Pisa, Corso Italia 58, Pisa, Italy   |
| Occupation or position held          | Software Engineer  |
| Main activities and responsibilities | Design and prototype of an automatic webnews aggregator and integration with Ask.com's offline. The project will eventually evolve into Ask.com's BigNews.   |
| Date (from-to)                       | <b>2005-08-02 - 2006-08-02</b>   |
| Name and address employer            | Ask Jeeves research Center, Pisa, Corso Italia 58, Pisa, Italy   |
| Type of business or sector           | Web Property   |
| Occupation or position held          | Research Intern  |
| Main activities and responsibilities | Study of an efficient system for clustering and ranking a stream of news crawled from the web  |
| Date (from-to)                       | <b>2004-06-21 - 2004-08-13</b>   |
| Name and address employer            | CERN (European Center for Nuclear Research) CH-1211 Geneva 23  |
| Type of business or sector           | Public Research Center   |
| Occupation or position held          | Summer Intern  |
| Main activities and responsibilities | Installation and development of an effective patch maintenance system for Sun Solaris 8 e 9. Development of a module for enhanced security login for the Apache web server 1.3.  |
| Date (from-to)                       | <b>2003 - 2004</b>   |
| Name and address employer            | AICA, P.le Morandi 2, Milano   |
| Type of business or sector           | Non-profit organization  |
| Occupation or position held          | Web maintainer/web developer   |
| Main activities and responsibilities | Web developer/administrator of the Italian Olympiad in Informatics web portal, a resource for training and a problem repository for students wanting to attend the local selections  |
| Dates(from-to)                       | <b>2002 - 2005</b>   |
| Name and address of the employer     | AICA (associazione italiana per l'informatica e il calcolo automatico) [Italian association for computer science] p.le R. Morandi, 220121 Milan, Italy   |
| Occupation or position held          | Tutor and trainer of the Italian team designated to participate in the International Olympiad in Informatics (IOI)   |
| Main activities and responsibilities | Assisted professor in training and tutoring the Italian team designated to participate in the International Olympiad in informatics, configured and set up the local contest environment, reviewed the problems for the local selections and the lecture topics. |