Valerio Maggio

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Web

http://wpage.unina.it/valerio.maggio
http://www.linkedin.com/in/valeriomaggio
http://www.slideshare.net/valeriomaggio
https://bitbucket.org/valerio_maggio

Education

University of Naples "Federico II" - Ph.D in Computational Science (Grade: Excellent) 2010-13
University of Naples "Federico II" - Master degree in Computer Science cum laude 2007-09
University of Naples "Federico II" - Bachelor degree in Computer Science cum laude 2003-06

Research interests

Machine Learning, Information Retrieval, Kernel Methods, Pattern Matching, Software Maintenance, Mining Software Repositories, Social Network Analysis, Big Data Analysis.

(*PhD. Thesis title:* Improving Software Maintenance using Unsupervised Machine Learning techniques.)

Technical Skills

- **Languages**: Python, Ansi C, Java, C#, Javascript, Lisp, Haskell
- **Web technologies** (most extensively used): Django, Google App Engine, JQuery, Node.js, Tornado, HTML5, CSS3
- **Data storage technologies**: PostgreSQL, MongoDB, Redis, SQLite, Google BigTable, HDF5
- **Static code analysis tools**: llvm and clang (Python binding), AntLR
- **Configuration management systems**: Git, Subversion, Mercurial
- **Operating systems**: Unix/Linux (Sys Admin), Mac OSX
- Extensive experience with **Python** for (big) **data analysis** and **manipulation**:
  - numpy, scipy, pandas, HDF5, PyTables, matplotlib, mpi4py, appengine-mapreduce, nltk, scikit.learn, scikit.stats
- **Miscs**: Bash scripting, SQL, LaTex, UML, Vim, Emacs, Intellij IDEA, PyCharm

Experience

(Mar 2013 - Present) **Software engineer and developer**
University of Naples "Federico II", Italy

Activities: Design and implementation of a **Cloud** based algorithm for **software clone detection** using the **Map-Reduce** computational framework.

Technologies:
- Python for core analysis algorithm (numpy, scipy);
- Google App Engine and appengine-mapreduce for the cloud computation platform.

(Jun 2012 - May 2013) **Software engineer and Project Supervisor**
University of Naples "Federico II" and FGA (Fiat Group Automobile), Italy

Activities: Design and implementation of a research tool for detecting duplicated model patterns in Matlab Simulink models.

Technologies:
- Python for core analysis algorithm (numpy, scipy) and for the Simulink models parsing;
- mpi4py for the parallel computational infrastructure.

(Jan 2012 - Jun 2012) **Algorithm engineer and lead developer**
University of Naples "Federico II", Italy

Activities: Design and implementation of an efficient **pattern matching** algorithm for source **code vocabulary normalization** (i.e., split compound identifiers and expand possible occurring abbreviations).

Technologies:
- Java (Lucene) for the core algorithm;
- Python for algorithm and data analysis (numy, scipy, matplotlib)

Additional Info:
- Research paper@ICSM2012 - http://goo.gl/3VCmY
- Presentation@ICSM2012 - http://goo.gl/dxceDS

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(Sep 2010 - Dec 2012) **Algorithm engineer and lead developer**
University of Naples "Federico II", Italy

Activities: Development of novel technique for automatic **software clustering** based on the analysis of source code lexicon by using **Information Retrieval** techniques.

Technologies:
- Java for the core extraction algorithm;
- Python for algorithm and data analysis (numy, scipy, scikit.learn)

Additional Info:
- Research paper@CSMR2011 - http://goo.gl/Dw8vX

(Apr 2010 - Jun 2012) **Algorithm engineer and lead developer**
University of Naples "Federico II", Italy

Activities: Development of a prototype tool for **software clone detection**. The core analysis algorithm applies **Machine Learning** techniques (**Kernel Methods**) to source code data structures (AST and PDG) in a parallel and distributed computational environment.

Technologies:
- Python for core algorithm and data analysis (numpy, scipy,matplotlib);
- Django for the back-end data analysis panel;
- mpi4py for the parallel computational infrastructure;
- AntLR, clang (Python binding), CodeSurfer for source code analysis.

Additional Info:
- Research paper@ICSM2010 - http://goo.gl/QlQlj
- Presentation@ICSM2010 - http://goo.gl/rAQhWG
- Presentation@EuroPython2012 - http://goo.gl/3NWHI

(Jul 2012 - Sep 2012) **Web Master and Local Organizer for GAMES 2012**
(Annual Workshop of the ESF on Games for Design and Verification)
University of Naples "Federico II", Italy

Technologies:
- Django and JQuery (front-end and back-end development);
- Yahoo Places APIs (for reservations and hotels booking).

(Mar 2012 - Apr 2012) **Web Master and Local Organizer for W2GIS 2012**
(Int. Symp. of Web and Wireless Geographical Information Systems)
University of Naples "Federico II", Italy

Technologies:
- Django and JQuery (front-end and back-end development).

(May 2009 - Oct 2009) **Project advisor and Back-end developer**
Extra s.r.l., Pisa, Italy

Activities: Development of web business platform for the organization of meetings and events with an automatic scheduling and meeting planner algorithm.

Technologies:
- Django (diango-cas) and JQuery (back-end development)

(Apr 2006 - Oct 2006) **Junior software engineer**
CrossZ Solutions, New York, USA

Activities: Analysis, development and bug fixing of an existing tool for Business Intelligence and Performance Management.

Technologies:
- C#, MS SQL Server.

OTHER

- Fluent in English;
- Strong attitude in presenting and in public speaking;
- Particularly interested in everything regards algorithms and computational matters;
- Strongly interested in Agile Methodologies for Project Management (Scrum) and for software development (eXtreme Programming, Test Driven Development).