# Curriculum Vitae of Andrea Morichetta

## Personal information

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| Surname(s) / First name(s) | **Andrea Morichetta** |
| Email(s) | andrea.morichetta@unicam.it |
| Nationality(-ies) | Italian |
| Gender | M |
| Current position | Research Fellow in the School of Science and Technology, University of Camerino. |

## Education

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| February 2013 – February 2016 | **Ph.D.** in Computer Decision and Systems Science, in the System Modelling and Analysis Group, IMT-Institute for Advanced Studies, Lucca, Italy.<br>Admitted with full scholarship.<br>Thesis title: "A Formal Approach to Decision Support on Mobile Cloud Computing Applications".<br>Final dissertation: 13/7/2016.<br>Advisor: Rocco De Nicola, Co-Advisor: Francesco Tiezzi. |
| November 2014 - April 2015 | **Visiting Professor** Kim G. Larsen<br>The research activity was focused on the definition of a new verification techniques used for decision support in Mobile Cloud Computing Systems. The decision support was based on exploiting a series of techniques from the real-time model checker UPPAAL. The main result for finding an infinite scheduling strategy to be used for the decision support, was obtained using a so-called cost/horizon method. Other approaches was developed using the statistical model checker and a new verification extension called STRATEGO devoted to solve optimization problems. |
| March 2011 - June2011 | **Erasmus Period**, University of Iceland<br>The research activity focused on implementing and testing a machine learning method such as Gaussian Mixture Models in the Speaker recognition field. |
| 2009-2011 | **Master's Degree** in Computer Science, Università di Camerino, Italy<br>Final dissertation on "Run-Time fault forecast for evolving software systems".<br>Supervised by Professor Andrea Polini<br>110/110 cum laude |
| 2006-2009 | **Bachelor's Degree** in Computer Science, Università di Camerino, Italy<br>Thesis title: "Progetto ed implementazione dell'interfaccia Web di Tourist in Palm".<br>Supervised by Professor Andrea Polini<br>107/110 |

## Professional experiences

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| April 2016 - Now | **Research Fellow** in the School of Science and Technology, University of Camerino.<br>The research activity is focused on "Mobile Cloud Computing Solutions for Learning". |

March 2012- February 2013

**Research Fellow** in the Software Engineering group at the I.S.T.I. “A. Faedo” CNR Pisa, Italy.
The research activity funded by the EU project CHOReOS, focused on the development of monitoring techniques for service oriented architectures. The main work consisted on developing a monitoring framework able to validate the run-time behavior of dynamic distributed systems relying on the adequacy of established criteria.

## Teaching Experience

February 2016 - June 2016

**Lectures** - Course of Informatica (Liceo Scientifico A. Gentili San Ginesio)

June/July 2015

**External examiner** in the high school final exam

## Research activity

Research Interest

Morichetta’s research interest focuses on Mobile Cloud Computing (MCC) and in applying formal verification analysis for demanding applications that run on small mobile devices, as well as consumer electronic devices such as cell phones, tablets etc.. These platforms are limited in compute cycles, storage capacity, and battery energy, making this area a fun and challenging one in which to work.

Seminars and Talks

Morichetta has given several seminars at IMT Institute for Advanced Studies Lucca and he also given some talks titled:

- Specifying and Verifying SCEL programs with SPIN in the ASCENS Project (Modena, IT).
- Decision Support for Mobile Cloud Computing Applications via Model Checking in the IEEE Mobile Cloud Conerence (San Francisco, US)
- A cost/reward method for optimal infinite scheduling in Mobile Cloud Computing in the FACS Conference (Rio de Janeiro, BR)
- Optimal Scheduling for Mobile Cloud Computing Applications via Model Checking in the CINA Project (Civitnova Marche, IT)

## Personal skills and competences

Mother tongue(s)

**Italian**

*Self-assessment*
*European level*(*)

| **Understanding** | | **Speaking** | | **Writing** |
|---|---|---|---|---|
| Listening | Reading | Spoken interaction | Spoken production | |
| C1 | C1 | C1 | C1 | C1 |

**English**

(*) *Common European Framework of Reference (CEF) level*

Social skills and competences

During the university period and working period Morichetta enhanced good social skills and competences derived by several working group and interactions with expertises of other research fields.

Technical skills and competences

Good knowledge of: Java and related technologies (Servlet, JSP, GWT, . . );
Web Services and related technologies (HTML, XML, XSD, DTD, SOAP, WSDL, WS-BPEL, BPMN, . . . );
Mobile technologies (Android, FirefoxOS, . . )
Web Server (Axis, Tomcat, IIS, . . )
Programming languages HTML, CSS, DOT.NET, OSGI(Equinox), Drools, C, C++, SQL, PHP, Pascal, Matlab;
Operative systems: Windows, Linux and Mac OS X
Formal verification, Model checking, Mobile Cloud Computing
DSL XText, MobiCa
IC3

**Relevant courses completed:** Complex system design, Distributed calculus, Logic, Home automation, SOA, Software Verification and Validation, Machine Learning, Concurrent and Distributed programming, Cloud Computing, Model checking, Modeling and verification reactive systems, Software engineering and service-oriented systems.

Driving licence(s)

A, B

**Pubblications**

# References


[1] Luca Aceto, Kim G. Larsen, Andrea Morichetta, and Francesco Tiezzi.
A cost/reward method for optimal infinite scheduling in mobile cloud computing.
In *Formal Aspects of Component Software - 12th International Conference, FACS 2015, Niterói, Brazil, October 14-16, 2015, Revised Selected Papers*, pages 66–85, 2015.

[2] Luca Aceto, Andrea Morichetta, and Francesco Tiezzi.
Decision support for mobile cloud computing applications via model checking.
In *3rd IEEE International Conference on Mobile Cloud Computing, Services, and Engineering, MobileCloud 2015, San Francisco, CA, USA, March 30 - April 3, 2015*, pages 199–204, 2015.

[3] Antonia Bertolino, Eda Marchetti, and Andrea Morichetta.
Adequate monitoring of service compositions.
In *Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering, ESEC/FSE'13, Saint Petersburg, Russian Federation, August 18-26, 2013*, pages 59–69, 2013.

[4] Rocco De Nicola, Diego Latella, Alberto Lluch-Lafuente, Michele Loreti, Andrea Margheri, Mieke Massink, Andrea Morichetta, Rosario Pugliese, Francesco Tiezzi, and Andrea Vandin.
The SCEL language: Design, implementation, verification.
In *Software Engineering for Collective Autonomic Systems - The ASCENS Approach*, pages 3–71. 2015.

[5] Rocco De Nicola, Alberto Lluch-Lafuente, Michele Loreti, Andrea Morichetta, Rosario Pugliese, Valerio Senni, and Francesco Tiezzi.
Programming and verifying component ensembles.
In *From Programs to Systems. The Systems perspective in Computing - ETAPS Workshop, FPS 2014, in Honor of Joseph Sifakis, Grenoble, France, April 6, 2014. Proceedings*, pages 69–83, 2014.