



Roberto Casadei

27, PhD Student in CS&Eng, Curriculum Vitae

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Presentation

Me Fond of learning, extremely curious and passionate. Historically devoted to horizontal investigation of computer science. Recently, more and more interested in the conceptual underpinnings and the scientific background. Continuously interested in the nature of knowledge and its methods. Open and attracted to multi-disciplinary endeavours. Freshly infatuated with systemics and complexity science.

Summary I graduated cum laude with a Bachelor's degree in *Electronics, Informatics and Telecommunications Engineering* from the University of Bologna. During my Bachelor's studies, I spent a semester abroad at the University of Limerick, within the Erasmus programme, where I first experienced the international dimension of academia. Then I recently graduated cum laude with a Master's degree in *Computer Science and Engineering*, with a thesis entitled *Aggregate Programming in Scala: a Core Library and Actor-based Platform for Distributed Computational Fields*, supervised by Prof. Viroli. In this occasion, my skills in advanced software development have embraced cutting-edge research themes in the field of complex adaptive software systems engineering. In early 2016, I have been engaged with post-lauream activities in the Pervasive Software Lab, that brought to a few paper submissions at international workshops and conferences. I formally started my PhD in November 2016.

Education

- nov 2016 – **PhD Programme in Computer Science and Engineering**, *University of Bologna*.
now **Subject:** *Engineering complex distributed computations for the Internet of Things.*
- sep 2013 – **Master's Degree in Computer Science and Engineering**, *University of Bologna*,
mar 2016 *Cesena, 110/110 cum laude.*
Thesis: *Aggregate programming in Scala: a core library and actor-based platform for distributed computational fields.*
- sep 2009 – **Bachelor's Degree in Electronics, Informatics, and Telecommunications Engineering**, *University of Bologna, Cesena, 110/110 cum laude.*
mar 2013 **Thesis:** *Reuse mechanisms and concurrency: from actors to agent-oriented programming.*

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jan 2012 – **Erasmus**, *University of Limerick (IRL)*, Limerick.
may 2012

Scholarships

nov 2016 – **PhD Scholarship (University of Bologna)**.
oct 2019
sep 2016 – **Scholarship**, *University of Bologna*, Department of Computer Science and Engineering (DISI).
nov 2016 "Software Infrastructures for the Management of IoT Systems".

Papers

Roberto Casadei and Mirko Viroli. **Towards Aggregate Programming in Scala**. In *First Workshop on Programming Models and Languages for Distributed Computing*, PMLDC '16, pages 5:1–5:7, New York, NY, USA, 2016. ACM

Mirko Viroli, Roberto Casadei, and Danilo Pianini. **On Execution Platforms for Large-scale Aggregate Computing**. In *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct*, UbiComp '16, pages 1321–1326, New York, NY, USA, 2016. ACM

Roberto Casadei, Danilo Pianini, and Mirko Viroli. **Simulating large-scale aggregate MASs with Alchemist and Scala**. In *Computer Science and Information Systems (FedCSIS), 2016 Federated Conference on*, pages 1495–1504. IEEE, 2016

Giorgio Audrito, Ferruccio Damiani, Mirko Viroli, and Roberto Casadei. **Run-Time Management of Computation Domains in Field Calculus**. In *Foundations and Applications of Self* Systems, IEEE International Workshops on*, pages 192–197. IEEE, 2016

Contributions (open-source/academic projects)

Scafi – an Aggregate Computing framework for Scala.

Lead developer. <https://bitbucket.org/scafiteam/scafi>

Alchemist – a meta-simulator tailored to pervasive computing.

Contributor. <https://github.com/AlchemistSimulator/Alchemist>

Teaching

feb 2017 – **Tutoring Contract**, Università di Bologna - Cesena, via Sacchi 3.
may 2017 60 hours tutoring in the integrated Computer Science and Engineering Master's Degree course *Development of Software Systems (Programming and Development Paradigms and Concurrent and Distributed Programming)*.
jan 2017 – **Educator**, *Form-Art*, Università di Bologna - Cesena, via Sacchi 3.
feb 2017 60 hours teaching the basics of programming in JavaScript in the context of IFTS (Istruzione e Formazione Tecnica Superiore), courses funded by Regione Emilia-Romagna.

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Experience

- sep 2014 – **Software Engineer**, *Apex-Net*, Cesena (Italy).
dec 2015 Web application development in ASP.NET MVC and JavaScript (jQuery,...) within a Scrum/Kanban process framework. [Area](#): education. [Customers](#): Bocconi University.
- mar 2014 – **Software Engineer**, *Apex-Net*, Cesena (Italy).
sep 2014 Development of a Windows 8.1 application in C#/XAML and development of the related WCF back-end service for SharePoint integration. [Area](#): education. [Sponsors](#): Microsoft Italia.
- 2007-2011 During the years of high school, I used to write reviews of computer science books for an Italian e-zine (and the next years, more informally, for a personal blog).
<http://www.programmazione.it>; <http://computerbookshelf.wordpress.com>

Awards

- 2017 Winner of prize “G.Bassi”, with scholarship, issued by Rotary Club Faenza in collaboration with Rotary Clubs of Romagna – Best master graduate student across all Engineering faculties of Romagna based on Grade Point Average and number of laudes.
- 2015 Among the winners of the public competition for meritorious students of the University of Bologna in academic year 2014/2015 (section common to all Engineering and Architecture faculties), with scholarship.
- 2009 “Roberto Ruffilli” acknowledgment for high-school graduation with score 100/100 cum laude.

Certifications

- 2011 **TS: Microsoft .NET Framework - Application Development Foundation**
Prometric, License 8424975.

Skills and expertise

- Meta-skills** Adaptivity; learning; abstract thinking; creativity.
Organisation; analysis; synthesis; design; problem solving.
- Social skills** Kindness; empathy.

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- Paradigms** Imperative; OOP; FP; Reactive; LP; Agent-Oriented; Aggregate Programming.
- Languages** Scala, Java, C#, C++, Ruby, Haskell. (Played with many others)
- Data** E/R modeling; relational modelling; Dimensional Fact Model.
- Technologies** [Web dev.](#) – ASP.NET MVC; Rails. JavaScript (ES6); jQuery. HTML5; CSS3.
[Frameworks](#) – Akka; RabbitMQ; OSGi.
[Data](#) – MySQL; Riak; RDF, OWL.
- Process** Agile sw dev. and practices; Scrum; (A)TDD/BDD.
Model-driven sw dev.; UML; DSL; code-generation (XText).
Collaborative sw dev.; version control (git); build automation (Maven, sbt).

Languages

Italian **Mother tongue.**

English **Proficient in both spoken and written English.**

Interests and hobbies

Epistemic

- Complex Systems Science
- Knowledge and its organisation
- Self-aware, introspective dialogue
- Philosophy and the art of thinking

Other

- Nature, animals, charismatic megaflora
- Football (played for \approx 15 years)

Miscellaneous

2011 Ex aequo finalist in a poetry contest (Premio di Poesia "E. Cantone", Lions Club del Rubicone).

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