Loïc GAMMAITONI

Doctor in Software Engineering

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EXPERIENCE

University of Luxembourg — *PhD Researcher*

Nov 2013 - Nov 2017 In Laboratory of Advanced Software Systems

- Developed in Java Lightning, an eclipse-based tool enabling the definition of Domain Specific Languages from user requirements.
- Designed a framework for RPSL (a robotic language from University of Bonn) easing the process of "design space exploration" by collaborating with RPSL' s target users.
- Defined a graphical modelling language to effectively analyse reactions in a metabolic network following requirements of the University of Luxembourg's biologists.
- Created a new model transformation language, called F-Alloy, which has the specificity of being formal (well defined semantics) yet efficiently computable.
- Supervised two master thesis and one bachelor thesis.

University of Luxembourg — *Part Time Research Assistant*

Sep 2012 - Feb 2013 In Laboratory of Security and Trust of Software Systems

- Reversed engineered Jabber protocol by sniffing packet exchanges using Wireshark and by using a carving tool.
- Automated the approach in a Python script.

Jul 2012 - Sep 2012 In Laboratory of Advanced Software Systems

- Implemented transactions support in a modelling tool by interfacing it with a Berkeley database.

Oct 2011 - Jun 2012 In Robotic Lab

- Implemented in Python ROS servers aiming at enabling a NAO robot to (1) detect and track objects (2) move towards identified objects (3) pick up identified objects.

Nomura, Luxembourg — *Intern*

Jul 2010 - Aug 2010 in IT Support Department

- Worked on the development of a new wiki, and coded VB scripts allowing the migration of data (from the old to the new wiki).

EDUCATION

University of Luxembourg — *Phd in Computer Science*

2013 - 2017 specialized in Model Driven Engineering and Formal Methods

University of Luxembourg — *Master in Computer Science*

2011 - 2013 - Major in AI & Software Engineering

University of Luxembourg — *Bachelor in Computer Science*

2008 - 2011 - Major in Distributed Systems

Technical Skills:

Programming: Java, PHP, Python, Js, C#, J2EE

OS: UNIX / Windows

Modelling: UML, Ecore, Alloy, Meurise

Soft Skills:

Teamwork,
Problem Solving,
Communication

Languages

French: Native
English: C2
Italian: B1
German: B1
Chinese: A2
Luxembourgish: A1

TEACHING

University of Luxembourg— *Java Bootcamp Organizer*

Sep 2016

- Organized a 3 days intensive java training for Master students

European School of Luxembourg— *Apps for Good Educator*

Oct 2015- Jun 2016

- Organized a weekly extracurricular activity during which students designed and developed mobile apps

University of Luxembourg— *Guest Teacher*

Nov 2014 - Nov 2017

- Gave distinguished lectures in model driven software development to computer science master students

University of Luxembourg— *Java Practicals*

Nov 2014 - Jun 2017

- Gave weekly Java practicals to 1st year bachelor students in science and engineering.

PUBLICATIONS

On the Use of Alloy in Engineering Domain Specific Modeling Languages
L Gammaitoni - PhD Thesis - 2017

Agile Validation of Model Transformations using Compound F-Alloy Specifications
L Gammaitoni, P Kelsen, Q Ma - Journal of Science of Computer Programming (SCP) - 2017

F-Alloy: A Relational Model Transformation Language Based on Alloy
L Gammaitoni, P Kelsen - Journal of Software and System Modeling (SoSyM) - 2017

RPSL meets lightning: A model-based approach to design space exploration of robot perception systems
L Gammaitoni, N Hochgeschwender - Simulation, Modeling and Prog. for Autonomous Robots (SIMPAR)- 2016

Agile Validation of Higher Order Transformations Using F-Alloy
L Gammaitoni, P Kelsen, Q Ma - Theoretical Aspects of Software Engineering (TASE) - 2016

Designing Languages Using Lightning
L Gammaitoni, P Kelsen, C Glodt - International Conference on Software Language Engineering (SLE) - 2015

F-alloy: An Alloy Based Model Transformation Language
L Gammaitoni, P Kelsen - International Conference on Model Transformations (ICMT) - 2015

Verifying Modelling Languages Using Lightning: a Case Study
L Gammaitoni, P Kelsen, F Mathey - Model-Driven Engineering, Verification and Validation (MoDEVVa) - 2014

Domain-Specific Visualization of Alloy Instances
L Gammaitoni, P Kelsen - International Conf. on Abstract State Machines, Alloy, B, TLA, VDM, & Z (ABZ) - 2014

The paradoxes of permission an action based solution
D Gabbay, L Gammaitoni, X Sun - Journal of Applied Logic - 2014