

# Leandro Ezequiel Nahabedian

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## Education

- 2015– **Ph.D Candidate.**  
2007–2014 **Master in Computer Science**, *University of Buenos Aires*, Argentina.  
2007–2013 **Bachelor in Computer Science**, *University of Buenos Aires*, Argentina.

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## Masters Thesis

- Title *Hot-Swap: A technique for generate and update discrete controller Synthesis at runtime*
- Supervisors Professor Nicolás D'Ippolito
- Description Continuous operation is a common software-intensive system quality attribute in many application domains. Thus, there is a need for sound engineering techniques that can change a system without stopping or disturbing its operation in the face of environment and requirements changes.
- In this thesis, we address the problem dynamic controller update when the specification (both environment assumptions and requirements) of the current system change.
- We present a general solution that not only produces a controller that computes a controller for the new specification and handles the transition from one to another but also, unlike existing approaches, forces the current system to a state in which such transition can safely occur. Indeed, using controller synthesis we show how to automatically build a controller that guarantees both progress towards update and also a safe update.

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## Academical Experience

### Involvement in Projects

- Mar 2014 **Research Assistant**, *National Institute of Informatics*, Tokyo, Japan.
- Jun 2014 Research in Software engineering in controller synthesis with an approach of self-adaptive software. I develop a new technique in the MTSA tool so as to build controllers that allow the change of the environment and ensure new goals without rebooting the system. The work done on my thesis begins from this internship that was held in Tokyo, Japan and supervised by Ph.D Nicolás D'Ippolito and Ph.D Kenji Tei. The tool MTSA was developed in JAVA and you can download it in <http://sourceforge.net/projects/mtsa>.

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## Human resources training

Ene 2015 – **Director of Master Thesis**, *Universidad de Buenos Aires*, Argentina.

Working together with Ivan Pasquini, who is getting involved in controller synthesis problems with partial observability. More precisely, we want to achieve goals in an environment with partial information.

Our work presents a novelty solution for problems where properties of the environment are not completely known. We direct to explore that environment so as to get only the information needed to solve the problem. This work has many applications in the area of robotics, networks, etc.

Mar 2015 – **Director of Master Thesis**, *Universidad de Buenos Aires*, Argentina.

Working together with Victor Wjugow. He is doing an internship in the National Institute of Informatics, Japan. We are developing an extension of the work that I did during my stay in that institute.

Controllers that can manage updates in different layers are produced by the technique we are working on. This controllers can be updated when the environment in which they are running change, the goals to be satisfy are impossible to achieve or the system acquire new abilities and it needs to exploit them. How to handle multi-layers updates is a common question in the self-adaptation software area.

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## Teaching Experience

Mar 2009 **Tutor**, *Freelance*, Buenos Aires, Argentina.

Nov 2009 I gave tutorials to high school students. Tutorials were of mathematics, physics and English subjects. These students attended to special schools to complete their studies.

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## Industrial Experience

Nov 2012 **Project Leader / Developer**, *National Ministry of Interior*, Argentina.

Apr 2015 I coped with different tasks that requires programming in many languages. Mainly, I used to work with PYTHON but also I worked with JAVA and PHP. Usually I worked in back-end.

Then, I also work as a Project leader. We had to assign the time that each media outlet gave to each political party for their advertising campaign for 2013 and 2015 Argentine elections. Our system also provide a web application that allow the media outlets and the political parties to communicate between them, so as to decide which TV spot they will use and when.

May 2012 **Python developer**, *Core Security Technologies*, Buenos Aires, Argentina.

Oct 2012 Company that develops software for analysis of vulnerabilities. My work consist in developing PYTHON code to build a system that allowed to add, remove or edit tasks in UNIX crontab file.

Another project was to initiate a server in a virtual machine with OPENBSD to be used as a web server. To achieve this goal I had to install all the packages needed to build a web service.

May 2010 **ActionScript2/Python developer**, *MetroGames*, Buenos Aires, Argentina.

Dic 2011 Company that makes video games for social networks. I was one of the developers of a particular game called Fashion World. The design patter that we used to implement that game was MVC and the language was ACTIONSCRIPT2.

Afterwards, I worked with PYTHON to make systems to be used within the company. These programs were part of the internal infrastructure of the company. For instance, a system that manage the deployment of a project.

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- Feb 2010 **Web developer**, *Intelligenx*, Buenos Aires, Argentina.  
May 2010 I did an internship for this company where I had two projects.  
First, I configured an application using XPATH and REGULAR EXPRESSIONS. By doing this, the tool fill a database with information about stores of different companies.  
After that, we produce a web page that used the data obtained before so as to provide yellow pages service. We used JAVA to create the application.

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## Honors & Awards

- May 2015 – **Ph.D. Scholarship**, *Consejo Nacional de Investigaciones Científicas y Técnicas*, CONICET, Argentina.  
Ago 2012 **ICT Scholarship**, *Ministry of Science, Technology and Productive Innovation*,  
Ago 2014 Argentina.  
I got a scholarship for two years awarded by the Ministry of Science and Technology of the Republic of Argentina to get the degree in master in computer science. The beneficiaries of this plan were chosen based on the number of test taken, the years undertaken in the study and obtained grade point average.

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## Languages

Spanish **Mothertongue**

English **Bilingual**

*First Certificate in English in 2006 with C grade*