

# Curriculum Vitae

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## About me:

I'm a person with great skills to develop algorithms that solve complex problems using a solid mathematical foundation, with interests on research and advanced problem solving. I feel very comfortable working by goals, even when they are not specific and with challenging deadlines. I have a proactive attitude that allows me to fulfill my goals with no need of tracing by my managers.

I have the ability to overcome adverse situations easily, that allow me to handle unsuccessful results and continue my work with no interruptions.

I adapt myself easily to working groups, providing knowledge to my colleagues but also learning from them, which allows me to get high value results to the team.

## Education:

**Universidad de Buenos Aires:** PhD in Computer Sciences (formally starting April 2017 - Started my research in 2016)

**Universidad de Buenos Aires:** Computer Sciences Master's Degree obtained in 2016 (GPA: 8.38/10)

**Universidad de Buenos Aires:** Computer Sciences Bachelor's Degree obtained in 2014 (GPA: 8.08/10)

**Universidad de Buenos Aires:** Mathematics Master's Degree in course (9 courses and thesis pending, GPA: 8.1/10)

## Skills and Knowledges:

Natural Languages:

- Native Spanish speaker.
- Advanced level of English.

Programming Languages:

- High-intermediate level:
  - C++ (over 5 years of experience, mainly for academic purposes).
  - LaTeX.
- Intermediate level:
  - Bash.
  - Haskell.
  - Java (6 months industry experience).
  - Matlab/Octave.
  - Python.
- Low-intermediate level:
  - Javascript.
  - PHP/Hack (3 months industry experience).
  - Smalltalk.
  - SQL.
  - Prolog.
  - Ruby (4 months industry experience).
- Low level:
  - Intel x86 Assembly.

- At least once written code by myself:
  - Go.
  - Lisp.
  - Pascal.
  - Perl.

Deep understanding as a result of my courses at university, my research experience and my spare time dedicated to learn in

- Algorithms and Data Structures.
- Graph Theory and Computational Complexity.

## Experience:

Academic experience:

- Teaching experience:
  - **Head of TA's** (in charge of the mid term evaluations and coordinating all the practical courses) - 3 semesters: Algorithms and Data Structures III (2016), Algorithms and Data Structures I (2016) and Problems, Algorithms and Programming (2016 - Elective course)
  - **First class Teaching Assistant** (graduate TA) - 4 semesters: Algebra Workshop (2017), Operative Systems (2015), Algorithms and Data Structures II (2015) and Algorithms and Data Structures III (2015)
  - **Second class Teaching Assistant** (student TA) - 3 semesters: Algorithms and Data Structures I (2012), Operative Systems (2014) and Algorithms and Data Structures III (2015).
- Research experience:
  - Presented a talk on **Latin American Workshop on Cliques in Graphs 2016** "On graphs with linear convergence" coauthored with Flavia Bonomo and Martín Eduardo Frias Armenta, and coauthor with Miguel Pizaña and Ismael Robles of a talk given by Ismael Robles "On the parameterized complexity of finding all cliques of a graph". Both papers are to be published soon.
  - Working as a researcher at Universidad de Buenos Aires since March, 2016 first under the supervision of PhD. Flavia Bonomo (professor at Universidad de Buenos Aires and independent researcher at CONICET, that is the main institute for research in sciences in Argentina) working on **Graph Theory and Computational Complexity** until November, 2016 and started working on January, 2017 with PhD. Verónica Becher (also professor at Universidad de Buenos Aires and researcher at CONICET) in problems on **Normal Numbers and De Bruijn Sequences** trying to solve them using **Graph Theory**.
  - **Master's thesis** under the supervision of PhD. Flavia Bonomo and PhD. Martín Eduardo Frias Armenta (professor and researcher at Universidad de Sonora, Mexico), studying the **convergence of the clique operator in specific families of graphs and the topologies of other families closed under the clique operator**.
- Other experience:
  - Computer Science department's **counselor** at Universidad de Buenos Aires as student (2015) and as graduate (2016-2017).
  - Member of a committee in charge of evaluating the **Computer Science syllabus** at Universidad de Buenos Aires (2016).

Industry experience:

- **Six months internship as a Software Engineer at Medallia** in the Buenos Aires office working for the Platform Team (2015-2016) under the supervision of Santiago Pérez González and Guido de Caso.
- **Three months internship as a Software Engineer at Facebook** in the Menlo Park office (headquarters) working for the Ads Delivery Product team (2015) under the supervision of Nikola Mihajlovic.

- Appointed **Facebook Campus Ambassador** in Argentina for 2015.
- **Software Engineer at Avalancha.com** (an e-commerce startup in Buenos Aires) in 2014 having to deal with all kind of development challenges, and even with a lot of tasks not related to software development, being a member of the team since the creation of the company under the supervision of Patricio Traverso.
- **Three months internship as a Software Engineer at Google** in the Mountain View office (headquarters) working for the Mobile Search Ads team (2012) under the supervision of Deepak Chandra.

Important results achieved in the industry:

- In Medallia I developed a memory optimization algorithm for which the first estimations where around a **30% memory saving, and an important money saving** for the company in hardware. This project started with a specific goal, to which I added relevant contributions for the team that were not part of the original plan for my internship.
- My project at Facebook was to solve a load balancing problem between two internal data base architectures. During my internship I had to make decisions and implement them, working together with three different teams, and **the impact of my project reached over 200 engineers** who were benefited by the improvements I made to an internal tool for which I optimized its performance.

Experience facing important challenges mainly in the context of Mathematics and Programming Contests:

- Organization of Maths and Programming competitions and events related to this competitions:
  - **Director and professor at Argentina's Training Camps for Programming Contests** since its first edition in 2010. (Three times in Buenos Aires and once in Córdoba, La Plata, Bahía Blanca and Neuquén. 2017 edition will be held in Universidad Nacional de San Martín). Main responsible for the coordination of the classes, relationship with sponsors (Google, Facebook, Medallia, Microsoft, Bright Sector and Fundación Sadosky sponsored at least once each), and the host university, receiving students from Bolivia, Chile, Colombia, Peru, Uruguay, Venezuela and several universities in Argentina. This model of Training Camps was copied by several universities in Latin America where I was invited many times to be the professor in charge or to choose the professor in charge when I couldn't assist.
  - **Problemsetter and member of the jury at Torneo Argentino de Programación** (the National round of ACM ICPC in Argentina) in 2012, 2013, 2014 and 2016.
  - **Problemsetter and member of the jury at ACM ICPC Latin American Regional Contest** in 2013 and 2014.
  - **Problemsetter for TopCoder** (over 40 problems) and **Facebook Hacker Cup 2015** taking part of the finals problem set preparation.
  - Chosen as **Community Advisory Board** member by TopCoder on 2017.
  - Member of the jury and the organization of several mathematical olympiads for high school students between 2006 and 2008.
- Programming Competitions participation:
  - **Coach** of Universidad Nacional de Rosario's team at **ACM-ICPC World Finals 2016**. Obtained **Latin American Champion** award and ranked 32 worldwide.
  - Coach of three teams from Universidad Nacional de Rosario and Universidad Nacional de La Plata at ACM ICPC Latin American Regional Contest 2015, obtaining 1st place, 7th place and 64th place in the South America/South Region.
  - **Contestant** of Universidad de Buenos Aires' team at **ACM ICPC World Finals 2012**. Ranked 36 worldwide.
  - **Contestant** of Universidad de Buenos Aires' team at **ACM ICPC World Finals 2010**. Ranked 62 worldwide.
  - Contestant of one of the Universidad de Buenos Aires' teams at ACM ICPC Latin American Regional Contest 2008, 2009, 2010 and 2011 obtaining 7th place, 1st place, 4th place and 3rd place respectively in the South America/South Region with teams TVG (2008 to 2010) and GLP (2011).

- Several **top 500 results** in **Google Code Jam** (user: ltaravilse), **Facebook Hacker Cup** and **TopCoder Open** (user: ltaravilse) including even some **top 200 results**. Also several participations in CodeForces (user: ltaravilse) and TopCoder where I reached the **top 3%** (with a rating of 2242) **in the worldwide ranking** in the Algorithmic track and with good results in the Marathon Match track.
- Mathematical Competitions participation:
  - **Silver Medal** at Iberoamerican Mathematical Olympiad for university students 2015.
  - 4th place (2014) and 6th place (2013) at CIMA (University Math Competition in Argentina) in team with Agustín Gutierrez.
  - Several Honorable Mentions and top places at Math Olympiads at Regional, National and International level at High School level between 2004 and 2006 including a **Bronze Medal** in Asia Pacific Mathematical Olympiad 2006.