

Facundo MOLINA

PERSONAL INFORMATION

PLACE AND DATE OF BIRTH: Carnerillo - Córdoba - Argentina — 1994 August 12
NATIONALITY: Argentinian
ADDRESS: Río Cuarto - Córdoba - Argentina
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LINKEDIN: <https://www.linkedin.com/in/facundo-molina/>
GITHUB: <https://github.com/facumolina>

EDUCATION

2017 - **Ph.D. student in Computer Science**
PRESENT Software Engineering - Formal Methods - Machine Learning
The main research direction is the application of machine learning techniques to program analysis tasks.
Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina

2012 - 2017 **M.S. in Computer Science**
Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina
THESIS PROJECT: Automatic Learning of Relational Specifications using Evolutionary Computation
AVERAGE SCORE: 9,43 out of 10

2012 - 2014 **B.S. in Computer Science**
Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina
THESIS PROJECT: Project in the course of Distributed and Outsourced Software Engineering
AVERAGE SCORE: 9,33 out of 10

PUBLICATIONS

JULY 2019 **An Evolutionary Approach to Translating Operational Specifications into Declarative Specifications** - Facundo Molina, César Cornejo, Renzo Degiovanni, Germán Regis, Pablo Castro, Nazareno Aguirre and Marcelo Frias
Science of Computer Programming, Volume 181, Pages 47-63, 2019.

MAY 2019 **Training Binary Classifiers as Data Structure Invariants**
Facundo Molina, Pablo Ponzio, Renzo Degiovanni, Germán Regis, Nazareno Aguirre and Marcelo Frias
Proceedings of the 41th International Conference on Software Engineering, ICSE 2019, Montreal, Canada, May 25-31, 2019.

SEPTEMBER 2018 **A Genetic Algorithm for Goal-Conflict Identification**
Renzo Degiovanni, Facundo Molina, Germán Regis and Nazareno Aguirre
Proceedings of the 33rd ACM/IEEE International Conference on Automated Software Engineering, ASE 2018, Montpellier, France, September 3-7, 2018.

- MAY 2018 **From Operational to Declarative Specifications using a Genetic Algorithm** - Facundo Molina, Renzo Degiovanni, Germán Regis, Pablo Castro, Nazareno Aguirre and Marcelo Frias
Proceedings of the 11th International Workshop on Search-Based Software Testing, SBST@ICSE 2018, Gothenburg, Sweden, May 28-29, 2018.
- NOVEMBER 2016 **An Evolutionary Approach to Translate Operational Specifications into Declarative Specifications** - Facundo Molina, César Cornejo, Renzo Degiovanni, Germán Regis, Pablo Castro, Nazareno Aguirre and Marcelo Frias
Proceedings of the 19th Brazilian Symposium on Formal Methods SBMF 2016, Natal, Brazil, November 22-25, 2016.

AWARDS & DISTINCTIONS

- 2020 **Latin America PhD Award**
A research award for PhD students in computing related fields in their 3rd year or beyond at universities in Latin America granted by Microsoft Research.
- 2018 **Best Paper Award**
*From Operational to Declarative Specifications using a Genetic Algorithm
11th International Workshop on Search-Based Software Testing, SBST 2018.*
- 2016 **Best Paper Award**
An Evolutionary Approach to Translate Operational Specifications into Declarative Specifications, 19th Brazilian Symposium on Formal Methods, SBMF 2016.
- 2016 **University of Rio Cuarto flag bearer for a 1-year period**
Traditional honour in educational institutions in Argentina to the three top students in the institution.

GRANTS & SCHOLARSHIPS

- 2017 **Doctoral Scholarship**
5-year Scholarship granted by the Argentina's National Scientific and Technical Research Council (CONICET) to finance the doctorate carrer of graduate students.
- 2016 **EVC-CIN Scholarship**
1-year Scholarship granted by the argentinian National Inter University Council (CIN) to encourage undergraduate students to pursue scientific vocations.

SERVICES

- 2019 **Student Volunteer**
*41th International Conference on Software Engineering, ICSE 2019
Montreal, Canada.*
- 2018 **Student Volunteer**
*33rd ACM/IEEE International Conference on Automated Software Engineering, ASE 2018
Montpellier, France.*

2017 **Student Volunteer**

*39th International Conference on Software Engineering, ICSE 2017
Buenos Aires, Argentina.*

TEACHING BACKGROUND

MARCH 2019 **Teaching Assistant**

- PRESENT COURSE: Introduction to Programming
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

AUGUST 2018 **Teaching Assistant**

- DECEMBER 2018 COURSE: Distributed and Outsourced Software Engineering
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

MARCH 2018 **Teaching Assistant**

- JUNE 2018 COURSE: Computability and Complexity
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

MARCH 2017 **Student Teaching Assistant**

- JUNE 2017 COURSE: Algorithm Design Techniques
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

AUGUST 2016 - **Student Teaching Assistant**

NOVEMBER 2016 COURSE: Programming Paradigms
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

MARCH 2016 **Student Teaching Assistant**

- JUNE 2016 COURSE: System Design and Analysis
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

AUGUST 2015 - **Student Teaching Assistant**

NOVEMBER 2015 COURSE: Programming Paradigms
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

MARCH 2015 **Student Teaching Assistant**

- JUNE 2015 COURSE: Algorithm Design Techniques
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

AUGUST 2014 - **Student Teaching Assistant**

NOVEMBER 2014 COURSE: Data Structures and Algorithms
*Department of Computer Science - FCEFQyN
University of Río Cuarto - Argentina*

COURSES

OCTOBER 2019	Neural Networks and Deep Learning - Adjunct Professor Andrew Ng <i>Foundations of Deep Learning</i> <i>An online non-credit course authorized by deeplearning.ai</i> <i>Coursera</i>
MARCH 2019	Introduction to Data Science in Python - Christopher Brooks <i>Introduction to data manipulation and cleaning techniques using pandas</i> <i>An online non-credit course authorized by University of Michigan</i> <i>Coursera</i>
AUGUST 2018	Neural Networks - Dr. Francisco Tamarit
NOVEMBER 2018	<i>Mathematical Foundations of Artificial Neural Networks</i> <i>Postgraduate courses</i> <i>University of Córdoba - Argentina</i>
AUGUST 2017	Text Mining - Dr. Laura Alonso Alemany
NOVEMBER 2017	<i>Text Mining techniques applied to Natural Language Processing problems (Word similarity, Document clustering, Sense discrimination, Machine translation)</i> <i>Postgraduate courses</i> <i>University of Córdoba - Argentina</i>
AUGUST 2017	Information and its Demons - Dr. Javier Blanco
NOVEMBER 2017	<i>Information Philosophy</i> <i>Postgraduate courses</i> <i>University of Río Cuarto - Argentina</i>
FEBRUARY 2017	Human Dynamics: Data, Networks and Modelling - Dr. Márton Karsai <i>Summer School of Computer Science RIO 2017</i> <i>University of Río Cuarto - Argentina</i>
MARCH 2016	Software Testing - Dr. Renzo Degiovanni
JUNE 2016	<i>Main software testing techniques using state-of-the-art tools</i> <i>Postgraduate courses</i> <i>University of Río Cuarto - Argentina</i>
FEBRUARY 2016	Systematic Test Case Generation - Prof. Sarfraz Khurshid <i>Summer School of Computer Science RIO 2016</i> <i>University of Río Cuarto - Argentina</i>
FEBRUARY 2016	Symbolic Program Analysis - Prof. Willem Visser <i>Summer School of Computer Science RIO 2016</i> <i>University of Río Cuarto - Argentina</i>
FEBRUARY 2015	Description Logic Reasoning - Dr. Anni-Yasmin Turhan <i>Summer School of Computer Science RIO 2015</i> <i>University of Río Cuarto - Argentina</i>
FEBRUARY 2015	Fundamentals of Quantum Programming Languages - Dr. Alejandro Díaz-Caro <i>Summer School of Computer Science RIO 2015</i> <i>University of Río Cuarto - Argentina</i>

LANGUAGES

SPANISH: Mother language
ENGLISH: Fluid