

Franco M. Luque

Personal Information

Name: Franco Martín Luque
Date of birth: February 8 1982
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Workplace

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Current Position

2012–2014 **Postdoctoral Researcher**
FaMAF, Universidad Nacional de Córdoba.
Advisor: Gabriel Infante-Lopez.

since 2013 **Adjunct Teacher**
FaMAF, Universidad Nacional de Córdoba.

Education

2012 **Ph.D. in Computer Science**
FaMAF, Universidad Nacional de Córdoba.
Advisor: Gabriel Infante-Lopez.

2007 **Licentiate in Computer Science**
FaMAF, Universidad Nacional de Córdoba.

2004 **Computer Analyst**
FaMAF, Universidad Nacional de Córdoba.

Grants

2012–2014 Postdoctoral research fellowship grant awarded by the National Council of Scientific and Technical Research of Argentina (CONICET).

2007–2012 Postgraduate research fellowship grant awarded by the National Council of Scientific and Technical Research of Argentina (CONICET), for the achievement of the PhD in Computer Science.

Prizes

- Best Paper award, 13th Conference of the European Chapter of the ACL (EACL 2012), Avignon, France, April 2012.
- Best Student Paper award, 10th International Colloquium on Grammatical Inference (ICGI 2010), Valencia, Spain, September 2010.

Selected Publications

Journal and Conference Papers

- Raphael Bailly, Xavier Carreras, Franco M. Luque y Ariadna Quattoni. Unsupervised Learning of WCFG as Low-rank Matrix Completion. En *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing (EMNLP 2013)*, Seattle, USA, octubre 2013. Association for Computational Linguistics.
- Borja Balle, Xavier Carreras, Franco M. Luque and Ariadna Quattoni. Spectral learning of Weighted Automata: A forward-backward perspective. In Jeffrey Heinz, Colin de la Higuera, and Tim Oates, editors, *Machine Learning*. Springer US, 2013. DOI 10.1007/s10994-013-5416-x.
- Franco M. Luque, Ariadna Quattoni, Borja Balle and Xavier Carreras. Spectral learning for non-deterministic dependency parsing. In *Proceedings of the 13th Conference of the European Chapter of the ACL (EACL 2012)*, Avignon, Francia, April 2012. Association for Computational Linguistics.
- Franco M. Luque and Gabriel Infante-Lopez. Bounding the maximal parsing performance of Non-Terminally Separated Grammars. In José M. Sempere and Pedro García, editors, *Grammatical Inference: Theoretical Results and Applications*, volume 6339 of *Lecture Notes in Computer Science*, chapter 12, pages 135–147. Springer Berlin / Heidelberg, Berlin, Heidelberg, 2010.
- Franco M. Luque and Gabriel Infante-Lopez. PAC-learning unambiguous k, l -NTS $^{\leq}$ languages. In José M. Sempere and Pedro García, editors, *Grammatical Inference: Theoretical Results and Applications*, volume 6339 of *Lecture Notes in Computer Science*, chapter 11, pages 122–134. Springer Berlin / Heidelberg, Berlin, Heidelberg, 2010.

Workshop Papers

- Franco M. Luque. *Una implementación del modelo DMV+CCM para parsing no supervisado. 2do Workshop Argentino en Procesamiento de Lenguaje Natural, Córdoba, Argentina, August 2011.*
- Martín A. Domínguez, Gabriel Infante-Lopez and Franco M. Luque. *Análisis de dependencias no supervisado basado en gramáticas biléxicas. Workshop on NLP and Web-based technologies, IBERAMIA 2010, Bahía Blanca, Argentina, November 2010.*
- Franco M. Luque. A lazy L^* algorithm for learning regular languages from queries. *Workshop ZULU Competition Debriefing, 10th International Colloquium on Grammatical Inference (ICGI 2010)*, Valencia, Spain, September 2010.
- Franco M. Luque and Gabriel Infante-Lopez. Upper bounds for unsupervised parsing with Unambiguous Non-Terminally Separated Grammars. In *Proceedings of the Workshop on Computational Linguistic Aspects of Grammatical Inference, 12th Conference of the European Chapter of the Association for Computational Linguistics*, Athens, Greece, March 2009.

Thesis

- Franco M. Luque. Unsupervised methods for natural language parsing. Ph.D. Thesis. Universidad Nacional de Córdoba, Argentina, 2012. Advisor: Gabriel Infante-Lopez.
- Franco M. Luque. *Simulador de Impacto Ganancial: Un software libre desarrollado en Java con Diseño por Contratos (Lucrative Impact Simulator: A free software developed in Java with Design by Contract)*. Degree thesis. Universidad Nacional de Córdoba, Argentina, 2007. Advisor: Martín Domínguez.

Invited Talks and Seminars (selection)

- “IEPY: Una plataforma para Extracción de Información en Python”. Datafest 2014, Buenos Aires, Argentina, October 31 2014.

- “*IEPY: Una plataforma para Extracción de Información en Python*”. XII Jornadas de Ciencias de la Computación. Universidad Nacional de Rosario, Rosario, Argentina, October 16 2014.
- “*Introducción al Análisis de Lenguaje Natural basado en Corpus*”. 11 Jornadas de Ciencias de la Computación. Universidad Nacional de Rosario, Rosario, Argentina, October 17 2013.
- “Spectral learning of weighted automata”. XRCE Seminar. Xerox Research Center Europe (XRCE), Grenoble, Francia, June 6 2013.
- “*Aprendizaje Espectral para el Análisis Sintáctico de Dependencias No-Determinístico*”. Workshop on Natural Language Processing, STIC-AmSud Scientific Seminar, Montevideo, November 9 2012.
- “*Procesamiento de lenguaje natural en la Universidad Nacional de Córdoba, Argentina*”. Universitat Pompeu Fabra (UPF), Barcelona, España, July 4 2012.
- “Spectral learning for non-deterministic dependency parsing”. Universitat Politècnica de Catalunya (UPC), Barcelona, España, April 20 2012.
- “*Análisis sintáctico no supervisado de lenguaje natural con modelos probabilísticos y maximización de esperanza*”, Workshop de Inteligencia Artificial, Tercera Escuela de Posgrado Red ProTIC, Mendoza, Argentina, May 2008.

Research Visits

- Three visits to the LSI Department, to work in the research project “Semi-supervised syntactic parsing by inferring hidden sequences” with Xavier Carreras and Ariadna Quattoni, funded by a Google Research Award 2010. Technical University of Catalonia (UPC), Barcelona, Spain:
 - March – July 2011 (5 months).
 - April – May 2012 (2 months).
 - April – June 2013 (3 months).
- Visit to the LORIA laboratory, to work with Dr. Carlos Areces of the TALARIS team, INRIA-Lorraine Institute, Nancy, France, April 2009.

Scientific Meetings

Speaker and Attendee

- Workshop on Natural Language Processing, STIC-AmSud Scientific Seminar, Montevideo, Uruguay, November 8 – 9 2012.
- 13th Conference of the European Chapter of the Association for Computational Linguistics (EACL), Avignon, France, April 23 – 27 2012.
- 10th International Colloquium on Grammatical Inference (ICGI), Valencia, España, September 13 – 16 2010.
- 12th Conference of the European Chapter of the Association for Computational Linguistics (EACL), Athens, Greece, March 30 – April 3 2009.

Program Committee Member

- XIV Argentine Symposium on Artificial Intelligence (ASAI 2013), 42 JAIIO, Córdoba, Argentina, September 16 – 20 2013.
- *16vo Concurso de Trabajos Estudiantiles* (EST 2013), 42 JAIIO, Córdoba, Argentina, September 16 – 20 2013.
- *2do Workshop Argentino de Procesamiento de Lenguaje Natural* (2nd Argentinian Workshop on Natural Language Processing), Córdoba, Argentina, August 5 – 6 2011.

Research Projects

- Director of the project PICT 2014-1651 “*Algoritmos Espectrales para el Análisis Sintáctico de Lenguaje Natural*”. Funded by the National Agency of Scientific and Technological Promotion of Argentina (ANPCyT). 2015 – 2017. In evaluation.
- Member of the international project “RITA: RIch Text Analysis through Enhanced Tools based on Lexical Resources”.
Participants: NLP Group (UNC, Ar), NLIP (UFRGS, Br), LaLiC (UFSCar, Br), NLP Group (UdelaR, Uy), ModyCo (U-Paris10, Fr), CL Group (UPEM, Fr).
Funded by STIC-AmSud program. 2014 – 2015.
- Director of the project “*Análisis sintáctico semi-supervisado de lenguaje natural*” (“Semi-supervised natural language parsing”). Academically endorsed by the Secretary of Science and Technology (SECyT), Universidad Nacional de Córdoba. 2012 – 2013.
- Member of the project 05/BP05 “*Análisis Sintáctico de Lenguaje Natural: Recursos, Técnicas y Aplicaciones*”. Funded by SECyT, UNC. 2012 – 2013.
- Member of the project “*Enriquecimiento de un Léxico Verbal Orientado a Aplicaciones de Procesamiento del Lenguaje Natural*”. Funded by SECyT, UNC. 2012 – 2013.
- Member of the project PICT 2007-02290 “*Minería de datos en texto semi-estructurado*” (“Data mining in semi-structured text”). Funded by ANPCyT. 2010 – 2012.
- Member of the project “*Aprendizaje no supervisado de estructuras sintácticas*” (“Unsupervised learning of syntactic structures”). Funded by SECyT, UNC. 2010 – 2011.
- Member of the project 05/B408 “*Análisis sintáctico del español*” (“Syntactic analysis of spanish”). Funded by SECyT, UNC. 2008 – 2009.
- Member of the project PICT 2006-00969 “*Aprendizaje automático de lenguajes complejos*” (“Automatic learning of complex languages”). Funded by ANPCyT. 2007 – 2009.

Degree Thesis Supervision

- “Métodos semi-supervisados para la extracción de información en textos” (“Semi-supervised methods for information extraction from texts”). Rodrigo Jaime. In progress.
- “*Reingeniería de ‘Presentes’: Una base de datos sobre el accionar del terrorismo de estado*” (“Reengineering ‘Presentes’: A state terrorism action database”). Carlos Barcia. In progress.
- “*Aprendizaje activo para respuesta a preguntas sobre datos enlazados*” (“Active learning for question answering over linked data”). Milagro Teruel (co-advised). 2014.
- “*Extracción y reconocimiento de texto en imágenes naturales*” (“Text extraction and recognition from natural images”). Rodrigo Carranza (co-advised). 2014.

Teaching

- Adjunct Teacher, FaMAF, UNC. Since June 2013.
Courses: Algorithms and Data Structures I (2013, 2014), Operating Systems (2013), Programming Paradigms (2014).
- Teaching Assistant, FaMAF, UNC. Since August 2007.
Courses: Programming Paradigms (2008, 2009), Software Engineering I (2007, 2008, 2009, 2010), Algorithms and Data Structures I (2010, 2012).
- Undergraduate Teaching Assistant, FaMAF, UNC. 2006.
Courses: Software Engineering II, Algorithms and Data Structures I.
- Teaching Assistant, FaMAF, UNC, for the Leveling Course 2004. January – March 2004.
- Undergraduate Teaching Assistant, FaMAF, UNC. March 2002 – August 2004.
Courses: Introduction to Algorithms (2002), Algorithms and Data Structures I (2002, 2003, 2004), Algorithms and Data Structures II (2003), Discrete Mathematics II (2004).

Language Skills

- Spanish as native language.
- Advanced level of oral and written English.

Management

- Teacher member of the Honorable Directive Council of FaMAF. 2014 – 2016.
- Student member of the Honorable Directive Council of FaMAF. 2002 – 2003.
- President of the Center of Students of FaMAF (CEIMAF). 2003 – 2004.
- General Secretary of CEIMAF. 2001 – 2003.