Elena Gutiérrez Viedma

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About Me

I am a third-year Ph.D. student at the IMDEA Software Institute in Madrid, under the supervision of Prof. Pierre Ganty. Before, I have a Bachelor's Degree in Mathematics and Computer Science at Universidad Autónoma de Madrid. During my summer breaks, I have enjoyed three research internships at IMDEA Software working with Ganty on formal verification of programs using Horn clauses.

Now, my research interests are mainly focused in the theory of formal languages and automata and its applications to software verification. I am also interested in Horn clause verification, and logic and functional programming.

Research Experience

Sept. 2016 - present IMDEA Software Institute

PhD. in Software, Systems and Computing supervised by Prof. Pierre Ganty

Universidad Politécnica de Madrid

Sept. 2015 - Feb. 2016 IMDEA Software Institute

Bachelor's Project supervised by Prof. Pierre Ganty

2013 - 2015 IMDEA Software Institute

Three-month research summer internships

Education

2011- 2016 Bachelor's Degree in Mathematics and Computer Science (360 ECTS)

Universidad Autónoma de Madrid | Average Grade (out of 10) - 8.21

Publications

2018 *The Parikh Property for Weighted Context-Free Grammars*
P. Ganty and E. Gutiérrez. FSTTCS 2018
2017 *Parikh Image of Pushdown Automata*
P. Ganty and E. Gutiérrez. FCT 2017

Bachelor's Project

2016 *Linearisation of Index Bounded Sets of Horn Clauses.*
Supervised by Prof. Pierre Ganty
This thesis presents a Prolog algorithm that transforms non-linear logic programs into linear preserving their meaning
Grade (out of 10) - 10

Schools/Seminars Attended

- Microsoft Research PhD. Summer School. 4–8, July, 2016. Cambridge, UK.

- 2nd School on Formal Verification by The Hebrew University. 17–21, December, 2017. Jerusalem, Israel.

- womENcourage 2018, ACM Celebration of Women in Computing. 3–5, October, 2018. Belgrade, Serbia.

Conference/Public Talks

March, 2017	*Parikh Image of Pushdown Automata*
	S3, Seminar Series at Imdea Software Institute. March 7th, 2017
Sept., 2017	*Parikh Image of Pushdown Automata*
	Presentation at FCT 2017 in Bordeaux, France. September 11th, 2017
April, 2018	*Weighted Context-Free Grammars: Does Parikh's Theorem still hold?*
	S3, Seminar Series at Imdea Software Institute. April 3rd, 2018
Sept., 2018	*The Parikh Property for Weighted Context-Free Grammars*
	Formal Methods and Verification Seminar at the Université Libre de Bruxelles. September 26th, 2018

Languages

Spanish	Native
English	Fluent TOEFL iBT (Feb. 2016). Total (out of 120): 104
French	Basic

Programing Languages

- Prolog, Haskell, C, Python, LaTeX

Grants

2017- 2021	Predoctoral Contract for PhD. Training Grant (FPI)
	Provided by the Spanish Ministry of Economy, Industry and Competitiveness

Additional Information

Teaching Experience	Support classes for students at secondary education
	Mathematics, English, Physics and Chemistry
Volunteer work	International exchange organization AFS
	Coordination of exchange activities for foreign students in Spain
	Soñar Despierto Foundation
	Support classes for students coming from marginalized backgrounds