

Elena Gutiérrez Viedma



Age	25 (November 10, 1993)	Address	IMDEA Software Institute
Place of birth	Madrid, Spain		Office 342
Nationality	Spanish		Campus de Montegancedo s/n
Email	elena.gutierrez@imdea.org		28223 - Pozuelo de Alarcón
Website	http://software.imdea.org/~elena.gutierrez/		Madrid, Spain

About Me

I am a fourth-year Ph.D. student at the IMDEA Software Institute in Madrid, under the supervision of Prof. Pierre Ganty. Before, I studied a Bachelor's Degree in Mathematics and Computer Science at Universidad Autónoma de Madrid. During my summer breaks from 2013 to 2015, I worked at IMDEA Software 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) - 8.2
-------------------	--

Publications

2019	<i>A Congruence-based Perspective on Automata Minimization Algorithms</i> P. Ganty, E. Gutiérrez and P. Valero. MFCS 2019
2018	<i>The Parikh Property for Weighted Context-Free Grammars</i> P. Ganty and E. Gutiérrez. FSTTCS 2018
2017	<i>Parikh Image of Pushdown Automata</i> P. Ganty and E. Gutiérrez. FCT 2017

Bachelor's Project

2016	<i>Linearisation of Index Bounded Sets of Horn Clauses.</i> 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
- Dec., 2018 *The Parikh Property for Weighted Context-Free Grammars*
Presentation at FSTTCS 2018 in Ahmedabad, India. December 12th, 2018
- Feb., 2019 *¿Cómo garantizar que un programa hace lo que esperas?"*
I+D+M². Mujeres en Montegancedo. February 11th, 2019
- March, 2019 *Undecidability and Context-Free Languages*
S3, Seminar Series at Imdea Software Institute. March 25th, 2019

Languages

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

Programming 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