

PERSONAL DATA

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Isabel GARCÍA CONTRERAS

WORK EXPERIENCE

CURRENTLY PhD Student at the **IMDEA Software Institute**, Madrid, Spain

AUG 2019 - DEC 2019 International Fellow at **SRI International**, Menlo Park, CA, USA

FEB 2014 - JUL 2015 Intern at the **High Performance Computing and Networking** Research Group, Universidad Autónoma de Madrid, Spain

EDUCATION

CURRENTLY Working on my PhD, Dept. of Artificial Intelligence, **Universidad Politécnica de Madrid**

JUL 2016 MSc in Artificial Intelligence, **Universidad Politécnica de Madrid**. Master Thesis: *Code Search: A Semantic, Abstract Interpretation-based Approach*

JUL 2015 Degree in Computer Engineering, **Universidad Autónoma de Madrid**. Final Project: *Generación de Flujos en Redes Multigigabit Ethernet Acelerada Mediante Hardware Dedicado*
Top of class of 2015

PUBLICATIONS

- [1] R. Bruni, R. Giacobazzi, R. Gori, I. Garcia-Contreras, and D. Pavlovic. Abstract Extensionality – On the Properties of Incomplete Abstract Interpretations. In *Proc. ACM Symposium on Principles of Programming Languages 2020*, January 2020.
- [2] I. Garcia-Contreras, J. F. Morales, and M. V. Hermenegildo. Semantic Code Browsing. *Theory and Practice of Logic Programming, 32nd Int'l. Conference on Logic Programming (ICLP'16) Special Issue*, 16(5-6):721–737, September 2016.
- [3] I. Garcia-Contreras, J. F. Morales, and M. V. Hermenegildo. Towards Incremental and Modular Context-sensitive Analysis. In *Technical Communications of the 34th International Conference on Logic Programming (ICLP 2018)*, OpenAccess Series in Informatics (OASICS). Dagstuhl Press, July 2018. (Extended Abstract).
- [4] I. Garcia-Contreras, J.F. Morales, and M. V. Hermenegildo. Experiments in Context-Sensitive Incremental and Modular Static Analysis in CiaoPP. In *10th Workshop on Tools for Automatic Program Analysis (TAPAS'19)*, October 2019. (Extended Abstract).
- [5] I. Garcia-Contreras, J.F. Morales, and M. V. Hermenegildo. Multivariant Assertion-based Guidance in Abstract Interpretation. In *Proceedings of the 28th International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR'18)*, number 11408 in LNCS, pages 184–201. Springer-Verlag, January 2019.
- [6] I. Garcia-Contreras, J.F. Morales, and M. V. Hermenegildo. Incremental Analysis of Logic Programs with Assertions and Open Predicates. In *Proceedings of the 29th International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR'19)*, LNCS. Springer-Verlag, 2020.

RESEARCH INTERESTS

My research interests include static analysis and verification of software, abstract interpretation, in particular, how to perform them in a scalable way, (constraint) logic programming, and semantic code search.

PROJECTS

I have participated in the projects:

2016 - now **TRACES Technologies and tools for Resource-Aware, Correct, Efficient Software**. Code: TIN2015-67522-C3-1-R. Spanish MINECO.

TEACHING

CURRENTLY *Declarative programming: Logic and constraints*, School of Computer Science, UPM

FEB - JULY 2020 *Declarative programming: Logic and constraints*, School of Computer Science, UPM

FEB - JULY 2019 *Declarative programming: Logic and constraints*, School of Computer Science, UPM

TALKS

MARCH 2020	<i>Modular Verification of C Programs</i> , IMDEA Software Institute, Madrid, Spain.
DEC 2019	<i>Modular Verification of C Programs</i> , SRI International, Menlo Park, CA, USA.
OCT 2019	<i>Experiments in Context-Sensitive Incremental and Modular Static Analysis in CiaoPP</i> , TAPAS'19, Porto, Portugal.
OCT 2019	<i>Incremental Analysis of Logic Programs with Assertions and Open Predicates</i> , LOPSTR'19, Porto, Portugal.
MAY 2019	CODE. ANALYZE. REPEAT. <i>Incremental and Modular Static Program Analysis</i> , Simposio 2019: My Thesis in a Nutshell, UPM, Madrid.
FEB 2019	<i>Cocinando la informática</i> , Int'l Day of Women and Girls in Science, I.E.S. San Isidro, Madrid, Spain.
OCT 2018	CODE. ANALYZE. REPEAT. <i>Incremental and Modular Static Program Analysis</i> , womENCourage'18, Belgrade, Serbia.
SEP 2018	<i>Assertion-base Guidance in Abstract Interpretation</i> , LOPSTR'18, Frankfurt, Germany.
JUL 2018	<i>Towards Incremental and Modular Context-sensitive Analysis</i> , ICLP'18 - FLoC'18, Oxford, UK.
JUN 2018	<i>Towards Better User Guidance in Abstract Interpretation</i> , IMDEA Software Institute, Madrid, Spain.
JUL 2017	<i>Code Search: A Semantic, Abstract Interpretation-based Approach</i> , Jornadas SISTEDES'17, La Laguna, Spain.
JUN 2017	<i>Incremental and Modular Context-sensitive Analysis</i> , IMDEA Software Institute, Madrid, Spain.
OCT 2016	<i>Semantic Code Browsing</i> , ICLP'16, New York, USA.
JUN 2016	<i>Abstract Code Browsing</i> , IMDEA Software Institute, Madrid, Spain.

SCHOLARSHIPS AND PRIZES

2017 - 2021	FPU Grant 16/04811 by Spanish Ministerio de Educación y Ciencia
OCT 2018	1 st prize in womENCourage'18 Hackathon
JUL 2017	Best Ms. Thesis SISTEDES-Accenture Technology prize
2016	José Cuenca Award from the Department of Artificial Intelligence, UPM
2013 - 2014	Excellence Scholarship (Comunidad de Madrid, Spain)
2012 - 2013	Excellence Scholarship (Comunidad de Madrid, Spain)
SUMMER 2010	Scholarship of the German Embassy in Spain "Alumnos premio"
JUN 2010	2 nd prize of "Descubriendo la ciencia" from Auxilab

OTHER ACTIVITIES

FEB 2018	Participated in a radio debate in the framework of the International Day of Women and Girls in Science.
FEB 2019	Co-organized " I+D+M²: Mujeres en Montegancedo ", celebrated in the framework of the International Day of Women and Girls in Science, it is a local conference to disseminate the work of female scientists of the Technical University of Madrid.
MAR 2019	Participated in the Madrid Science Fair , disseminating the research that takes place in the IMDEA Software Institute to students.
SPRING 2019	Chair of the Software Seminar Series (Spring season) at the IMDEA Software Institute.
FEB 2020	Co-organized " Rompiendo códigos: Mujeres y niñas en la ciencia ", celebrated in the framework of the International Day of Women and Girls in Science.

COMPUTER SKILLS

Advanced knowledge:	Prolog, c, \LaTeX , git, gitlab, Docker, VHDL, verilog, C++
Basic knowledge:	lisp, CUDA, bash, SPARQL, C#, HTML, PHP, CSS, python, SQL, Java

LANGUAGES

SPANISH:	Native	ENGLISH:	Fluent	GERMAN:	Basic
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