

Fernando Macías

Computer Scientist, Post-doctoral Researcher, Ph.D.

📍 Toledo, Spain ✉ femaciasg@gmail.com 🌐 fernandomacias.es

Fernando Macías is a post-doctoral researcher in the areas of Software Engineering and Computer Science. His work includes creative thinking, study of technical publications, tool prototyping and dissemination of research.

In recent years, Fernando has earned a PhD after extensive research, including the development of the open-source tool **MultEcore** and the publication of a PhD dissertation. More recently, he is involved in transferring research results to the aerospace industry for the safe and efficient development of critical embedded software.

Fernando holds a PhD in Informatics from the University of Oslo, Norway, and an MSc, Major and BSc from the University of Extremadura, Spain. He has lived in three countries and speaks English, Spanish and Norwegian.

Experience

Post-doc Researcher , IMDEA Software Institute, Madrid, Spain	2019–
Research on the state of the art and state of the practice of software reliability for embedded systems, with special focus on test generation, code analysis, model-based testing and symbolic execution.	
Part-time Lecturer , Dep. of Information Systems Eng., University of Extremadura, Spain	2019
R&D Engineer , Homeria Open Solutions, Spain	2019
Guest Researcher , Dep. of Computer Science, Universidad Autónoma de Madrid, Spain	2017
PhD Research Fellow , Dep. of Software Engineering and Computing, Western Norway University of Applied Sciences, Norway	2015–2019
75% research on formal aspects of model-driven engineering. Development of MultEcore , a framework for multi-level modelling and multilevel model transformation founded on graph theory and category theory. 25% teaching, carrying out lab sessions and evaluating in courses at the Master level.	
Lecturer , EITIE Plan for Innovation and Entrepreneurship, University of Extremadura, Spain	2013
Research Fellow , Quercus Software Engineering Group, University of Extremadura, Spain	2013–2015

Projects

MFoC , techniques to improve the testing and verification of new-generation satellite systems	2019–2022
MultEcore , a tool for multilevel modelling and multilevel model transformation in EMF	2015–2019
MLM Rearchitecting , a tool for automatic rearchitecting of models into multilevel models	2017–2018
RV+MM , an approach to integrate runtime verification techniques into modelling processes	2016–2019
DATASHELTER , a system for microblog information retrieval with topic & sentiment analysis	2014–2015
MoTES , a model transformation testing approach based in contracts	2013–2021
MIGRARIA , a model-driven reverse engineering & modernisation process of legacy web apps	2013–2015

Education

Philosophiae Doctor (PhD) , Department of Informatics, University of Oslo, Norway	2019
Master of Science (MSc) , D. of Information Systems Eng., University of Extremadura, Spain Master's research thesis distinction.	2014
Science Major , Dep. of Information Systems Engineering, University of Extremadura, Spain Senior research thesis distinction.	2013
Bachelor of Science (BSc) , D. of Information Systems Eng., University of Extremadura, Spain	2011

Languages

Mother tongue: **Spanish**, Fluent: **English**, Basic: **Norwegian**

Publications

30+ publications in peer-reviewed conferences and journals.