

# MARTA DÁVILA MATEU

✉ [davilama@usc.com](mailto:davilama@usc.com)    🖥️ [martadavma.com](http://martadavma.com)

I aspire to become a computer science researcher in Formal Methods and Programming Languages.

## RESEARCH INTEREST

---

My research interests are in Programming Languages and Formal Methods. More specifically, I am interested in program synthesis, automated theorem proving, and automated verification.

## EDUCATION

---

**University of Southern California** **Los Angeles, CA, USA**  
*Ph. D. in Computer Science* *August, 2024-Now*

Programming Languages and Formal Methods.

**University of Southern California** **Los Angeles, CA, USA**  
*M. Sc. in Computer Science* *August, 2022-December, 2023*

Programming Languages Research.

**Maastricht University** **Maastricht, the Netherlands**  
*B.Sc. in Data Science and Engineering - Honours Degree* *August, 2016-June, 2019*

Honours & Honours+ Programme (30 additional credits).  
Research-Based Learning for Excellence.

**University of Sydney** **Sydney, Australia**  
*B.Sc. in Computer Science* *August, 2018-December, 2018*

Exchange Semester.

## WORKING EXPERIENCE

---

**University of Southern California** **Los Angeles, CA, USA**  
*Teacher Assistant* *August, 2024 - Currently*

CSCI 103 - Introduction to Programming.

**University of Southern California** **Los Angeles, CA, USA**  
*Research Assistant* *November, 2022 - Currently*

Research supervised by [Dr. Mukund Raghothaman](#) on recursion, program synthesis, and recursive program synthesis.

**GTD - ESA Guiana Space Centre** **Kourou, French Guiana**  
*Technical Manager - Software and Systems Engineer* *February, 2021 - April, 2022*

Developing and improving vital software for rocket's flight and safety, and solving software and system anomalies formerly and during rocket launches.

**GTD - ESA Meteosat Satellites** **Barcelona, Spain**  
*Data and Software Engineer* *June, 2019 - February, 2021*

Designing, developing and testing the data processing software of the series of satellites Meteosat, operated by the European Space Agency.

**Maastricht University**  
*Undergraduate Research Assistant*

Supervised by [Dr. Rico Möckel](#) at the Laboratory for Cognitive Robotics, [SwarmLab](#).

**Maastricht, Netherlands**  
*September, 2017 - July, 2018*

## RESEARCH PAPERS AND PROJECTS (Selected)

---

### **Synthesizing Recursive Programs through Dataflow Constraints**

*University of Southern California*

*SPLASH (OOPSLA) 2023: accepted 2023-08-25*

An alternative approach to recover recursive programs by developing a set of constraints that characterize program unrollings.

Open [paper](#).

### **Game Theory of Fishing: Sustainable Fishing Policies and its Worldwide Effects.**

*Maastricht University*

*December, 2018-June, 2019*

Exploiting game-theory and mathematical modeling to understand the effects of different fishing policies on fish population and fishing communities.

Supervised by [Dr. Kateřina Staňková](#) and [Prof. Frank Thuijsman](#).

Open [research paper](#).

### **Intelligent Robotic Game Device for the Assessment of Cognitive and Physical Capabilities in Children.**

*Maastricht University*

*September, 2017-July, 2018*

Combining natural language processing, computer vision and robotics to create a game device which assists teachers in the assessment of the well-being of children.

Open [thesis](#).

## HONORS AND AWARDS

---

### **SPLASH (OOPSLA) Student Research Competition 2023 - 2<sup>on</sup> place**

Opportunity for students to present their research to a panel of judges and conference attendees to exposes up-and-coming researchers to the research community.

Organized by SPLASH conference and the Association for Computing Machinery.

### **Maastricht Rethinking Hackathon 2018 - Winner**

36 hours to find a data-driven solution for a justice problem: LDS-Tool.

Organized by HiiL, Ebay and the Dutch DIFC Courts.

### **Future of a Data-Driven Society Research Award 2017 - Winner**

Granting funds to a research proposal that leverages Data Science to benefit society.

Organized by the Institute of Data Sciences, Maastricht University.

## OTHER ACTIVITIES

---

### **Professional Sailor**

ISAF Youth World Champion 2014.

### **Social Media Content Creation**

Over 130,000 followers on Instagram: [@martadavma](#).

### **Public Speaker**

Presented events with over 300 attendees.