

Work Experience

September 2020 **Software Engineer at Meta Platforms (former Facebook Inc.)** in London, United Kingdom

Current

Since I joined Meta, I have worked in three different teams with very different scope.

- Analyzed user's behavior when connecting a WhatsApp number to a Facebook page in order to identify blockers and address them, increase the amount of sellers using Click to WhatsApp ads.
- Developed, from scratch, the cross-app infrastructure to support discovery within the Affiliate program. The goal was to allow creators to discover products and shops, as well as allow advertisers to discover creators to partner with.
- Led our team's work to develop a series of automatic improvements to our seller's Pixel setup so they would get better results when running ads in our family of apps. Lead a team of 3 engineers.

Technologies used: *Data analysis with Python and SQL, app development with Hack, React and GraphQL.*

July 2019 **Research Intern at Meta Platforms (former Facebook Inc.)** in Palo Alto, USA

October 2019

Built a prototype of a grammar-based compressor that achieved compression ratios comparable to the ones obtained with [zstd](#). The compressor relied on some parameters that were optimized using a genetic algorithm,

Technologies used: *Prototype built in C, using Python to implement the genetic algorithm.*

September 2016 **PhD Candidate at IMDEA Software Institute** in Madrid, Spain

September 2020

My PhD focuses on Applications of Language Theory. It is worth highlighting the development of [zearch](#), a tool for searching with regular expressions in compressed text which outperformed the state of the art technology. This work led to an Research Internship at Meta and a publication at the Data Compression Conference.

Technologies used: *Prototypes built in C, C++ and Python. Papers and Thesis written with LaTeX.*

June 2014

May 2016

Internships while finishing my University studies

- Jun'14 - May'15: Internship at IMDEA Software Institute in Madrid, Spain
- Jun'15 - Sep'15: Internship at Max Planck Institute in Kaiserslautern, Germany
- Sep'15 - May'16: Internship at IMDEA Software Institute in Madrid, Spain

Programming Skills

Languages

Advanced: C, Hack, React, Python, SQL

Medium: C++, Java, Bash, Awk, JavaScript, PHP, HTML, CSS, LaTeX

Basic: R, Assembly, Lisp, Prolog

Software

Linux, Sublime Text, Atom, VS Code, Git, SVN, Mercurial, Zsh, Excel, Google Sheets

Publications

The following is a list of my top 4 publications. The full list is available on [Google Scholar](#) and my [personal website](#)

A Congruence-Based Perspective on Finite Tree Automata

Published on *Fundamenta Informaticae* 2021

A Quasiorder-based Perspective on Residual Automata

Published on *Mathematical Foundations of Computer Science* 2020

Complete Abstractions for Checking Language Inclusion.

Published on *ACM Transactions on Computational Logic* 2021

Regular Expression Search on Compressed Text

Published on *Data Compression Conference* 2019

Education

- **PhD in Software, Systems and Computing** at Universidad Politécnica de Madrid
Cum Laude
- **Degree in Computer Science** at Universidad Autónoma de Madrid
GPA: 9.31 / 10 - Obtained 4 consecutive Excellence Awards for academic performance.
- **Degree in Mathematics** at Universidad Autónoma de Madrid
GPA: 8.95 / 10