



# Marco Maida

Computer scientist



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## About me

I was born in Turin, Italy, and have been tinkering with computers for as long as I can remember.

I started working professionally as a programmer in 2013. After three years, I started a bachelor degree in Computer Science, while I kept working part-time as game developer.

Once I graduated, I moved to Germany, and started a Joint Master and Ph.D. program. After completing my Master's program, publishing my first research paper, and doing an R&D internship in America, I decided not to finish my Ph.D.

## Languages

L'italiano è la mia lingua madre,

I am fluent in **English**,

und ich spreche etwas **Deutsch**.

## Extras

I love camping and traveling with my bike: I often do the two together • I usually risk it, if I believe I am right • Striving not to be the smartest person in the room • I play guitar and — less successfully — sing.

## Skills

I have more than nine years of professional experience. I extensively worked with **Python**, **C#**, **C++**, **C**, **Java**, **Rust** and **Coq** code. I have a mixed background of **industry** and **academia**.

Thanks to my industry experience, I am comfortable working on big code bases in large and small teams, and quickly getting used to new technologies. Three years in research taught me how study complex problems and then design, implement, evaluate, document, and present my solutions.

I am very **outgoing** and I **love working in teams**. Due to my game development background, I am used to collaborating with different professional figures (e.g., artists, designers, musicians) and I have an eye for **user experience**.

## Education

- |           |  |                                       |
|-----------|--|---------------------------------------|
| 2019-2022 | <b>Master in Computer Science</b>                          | Technische Universität Kaiserslautern |
| 2016-2019 | <b>Bachelor in Computer Science</b><br>(110/100 cum laude) | Università degli studi di Torino      |
| 2015-2016 | <b>Game dev: Software Development</b><br>Private school    | Event Horizon School                  |

## Experience

- |           |   |  |
|-----------|---|--|
| 2022      | <b>R&amp;D Internship</b>   | Bloomberg LP - Chief Technology Office |
|           | I worked on accelerating SAT solving using GPUs (C++, CUDA).  |  |
| 2019-2022 | <b>PhD Student - Computer Science Research.</b>   | Max Planck Institute                   |
|           | My work has focused on timeliness certifications in safety-critical systems using formal verification (COQ) and on trace-based schedulability analysis on Linux (C, Rust). I mentored three interns.    |  |
| 2016-2019 | <b>Game developer.</b>  | 34BigThings                            |
|           | I worked with Unity3D (C#) and Unreal Engine (C++) on single player and online multiplayer games shipped on Steam, PS4, XboxOne, Switch, and mobiles. I developed gameplays, AIs, dev tools and UIs.    |  |
| 2015-2016 | <b>Freelance Unity3D developer.</b>   | Teoresi, Choralia, Maserati            |
|           | I built an interactive visualization software and a learning game using Unity3D (C#). I shipped on mobile devices and browsers (JS). I managed one artist I hired.                                      |  |
| 2013-2016 | <b>Software engineer.</b>   | R.O. srl                               |
|           | I developed software solutions for glass processing factories. I started as a developer (C, C++, C#, SQL) and later transitioned to planning new features and managing a small team ( $\leq 4$ people). |  |

## Projects

- |      |   |                      |
|------|---|----------------------|
| 2021 | <b>Poet - Automatic Proof Generation</b>  | Max Planck institute |
|      | I developed a tool that yields a worst-case-scenario timing analysis of software. The results are proven correct by a machine-checked COQ proof script. My publication has received the <i>outstanding paper award</i> at ECRTS2022, a top-class conference for real-time systems.<br>( <a href="https://pure.mpg.de/rest/items/item_3391739_1/component/file_3391740/content">https://pure.mpg.de/rest/items/item_3391739_1/component/file_3391740/content</a> ) |                      |
| 2018 | <b>Fast Mobile Cycle (FMC) Framework and Toolkit.</b>   | 34BigThings          |
|      | I developed an open-source Unity3D framework that makes the creation of production-ready casual games extremely fast, paired by a Python toolkit to execute bulk operations on the FMC games.<br>( <a href="http://www.github.com/34openThings">www.github.com/34openThings</a> )   |                      |
| 2017 | <b>Razer Chroma in Unreal Engine 4.</b>   | 34BigThings          |
|      | I developed a framework that handles light effects on Razer's Chroma hardware that are coherent to what is happening in the game. This system is still used today in every 34BigThings game.<br>( <a href="http://www.youtube.com/watch?v=AihLBrJBuFk&amp;ab_channel=34BigThings">www.youtube.com/watch?v=AihLBrJBuFk&amp;ab_channel=34BigThings</a> )  |                      |