Stefano Cecchettini

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ABOUT ME

I'm a tech and physics enthusiast with a Bachelor's degree in Physics Engineering and currently pursuing a Master's degree in High-Performance Computing. I gained valuable experience during my internship, where I developed firmware and honed my technical skills. As a freelancer, I have successfully completed full-stack web and server projects, tackling challenges in low-level programming with C++ and applying mathematical methods to complex problems. My interests lie in chip design, IoT, and cybersecurity, and I am eager to leverage my skills in these areas to drive innovation and create impactful solutions.

WORK EXPERIENCE

08/08/2024 – CURRENT Milano, Italy
FREELANCER

Development of web interfaces using JavaScript, HTML, CSS, and PHP, creation of a website for an association and a web app for a startup. I'm focused on delivering scalable, efficient, and user-friendly solutions by integrating DevOps best practices into the development process.

19/02/2023 – 01/06/2023 Milano, Italy
JUNIOR ELECTRONIC ENGINEER PHOTONPATH S.R.L.

Firmware development and post processing signal analysis.

06/06/2019 – 01/09/2019 Fano, Italy
PCB DESIGNER PROMNI SRL

I designed a PCB and I assembled different circuits boards using a tin welding machine.

EDUCATION AND TRAINING

11/09/2023 – CURRENT Milano, Italy
HIGH PERFORMANCE COMPUTING ENGINEERING Politecnico di Milano

Website https://www.polimi.it

12/09/2020 – 27/09/2023 Milan, Italy
BACHELOR'S IN PHYSICS ENGINEERING Politecnico di Milano

Final grade 100/110

DIGITAL SKILLS

Microsoft Office | Python | React | C | Git | SQL | Fullstack Development (Basic) | Docker | MATLAB - basic | C++ | PHP (junior level) | System Verilog

PROJECTS

17/02/2025 – CURRENT
FPGA implementation of a Neural Network for event cameras

For my master's thesis in High Performance Computing, I'm implementing FARSE-CNN, a 2024 neural network that efficiently processes event-based camera data by combining recurrent and convolutional mechanisms with low computational complexity.

Link https://www.ecva.net/papers/eccv_2024/papers_ECCV/papers/07037.pdf

20/08/2024 – 06/02/2025
Solving Navier-Stokes Problem for Incompressible Fluid

I developed a numerical solution for the Navier-Stokes equations to simulate incompressible fluid flow around a cylinder using C++ and deal.II, later collaborating on a project to extend this work to an airfoil with a custom implementation.

10/11/2023 – CURRENT
Multigrid and AMG implementation from scratch

University project focused on implementing the Multigrid method, a widely-used computational technique in numerical analysis for solving PDEs, and Algebraic Multigrid (AMG), applied as a preconditioner to accelerate the solution of the linear system $Ax=b$

23/09/2024 – 18/12/2024
Coupled Navier-Stokes Solver Extension for OpenFOAM

As part of a university aerospace course, I am collaborating in a team to develop an extension for the OpenFOAM library. The project focuses on implementing a coupled approach to solve the Navier-Stokes equations using the finite volume method.

05/03/2024 – 18/10/2024
Indoor positioning system using mobile phone sensors

I collaborated with a DEIB professor to develop a cost-effective indoor positioning system using smartphone sensors, implementing a cross-platform C++ app for Bluetooth/Wi-Fi communication and a UDP-based server, with potential applications in gaming.

02/06/2024 – 10/06/2024
DevOps Software engineering project

Developed a comprehensive test case file and automated the processes for testing and building, implemented containerization, and leveraged CINECA's HPC Galileo 100 clusters with Slurm and GitHub Actions for streamlined workflows.

Link https://github.com/Stefo01/SWENG_prj_p2

01/07/2022 – 10/12/2022
Backend developer for a DEIB Project

I developed the server for the Snice Project, supervised by Professor Fabio Dercole during my Bachelor's automation course at Polimi DEIB. I utilized Flask to create the backend API and designed the front end for user registration and management. Additionally, I implemented CI/CD practices using GitLab and leveraged Docker for containerization.

HOBBIES AND INTERESTS

Ciclist

Until 2018, I participated to several cycling races. I did 6 years as a professional, and now I still enjoy cycling as an amateur.

VOLUNTEERING

18/10/2016 – CURRENT
Italian Red Cross

The Red Cross provides essential aid to society, including transporting sick and elderly individuals to hospitals, assisting the homeless, and offering support at crowded events, while I also serve as an ambulance rescuer.