

Matheus Luís Bernardi

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Personal Profile

I am a mathematician and software developer. I love how math can be used as a lens to understand the world and solve both silly daily conflicts and complex problems. I am loving to develop for the web and i am eager to learn more about it.

Education

University of Campinas

Bsc. in Applied Mathematics

Campinas, SP

Feb 2016 - Aug 2020

- **Courses:** Programming, Statistical Theory and Methods, Optimization Theory and Methods, Applied Mathematical Methods

Work Experience

CNPEM

Senior Technological Development Analyst

Campinas, SP

Feb 2019 - Present

- In 2019, i joined the Scientific Computing group at LNLS as an intern, working mainly on image processing and image reconstruction algorithms. Since i was a math student with few programming experience, i grew a lot in this period, learning a lot about Python, Cuda and optimization of algorithms.
- In 2020, after graduating from college, i was hired as a full-time employee at the Scientific Computing group. I mainly kept working on image processing and reconstruction algorithms, but i also started to work on web development, porting some desktop applications to the web and pushing the group to adopt modern web technologies. Also, i started to focus on the best practices of software development, enforcing better use of continuous integration and deployment, code reviews and documentation.
- In 2023, in function of my ever-growing interest in web development and software engineering, i was transferred to the Control Software group to work on the state of the art web applications that control the accelerators and some processing web interfaces. My current goal is to enable the LNLS to adopt modern web technologies and best practices, hopefully making the web applications the standards for the accelerators community.

Software Projects

Personal Website

matyson.vercel.app

- Utilized: React, Next.js, ReactPDF, Vercel

Pianno

github.com/cnpem/pianno

- Developed a web drawing app to assist Pimega detector alignment process.
- Utilized: React, Next.js, Pixijs, Node.js, Docker

DeepSirius UI

github.com/cnpem/deepsirius-ui

- Developed a web interface for a deep learning based tool for segmentation analysis of tomographic image data.
- Utilized: React, Next.js, Auth.js, Prisma, tRPC, Node.js, PostgreSQL, Docker, Python, FastAPI

Q Lab faz isso?

github.com/matyson/qlab

- Developed a NYT Connections inspired game for CNPEM "Ciência Aberta" event to expand sciencific divulgation while having a good time playing.
- Utilized: React, FramerMotion

Skills

Languages Python, C/C++, CUDA, HTML/CSS, JavaScript, TypeScript, Matlab

Web Frameworks React, Next.js, Astro, Node.js

References available upon request.