Pedro Folloni Pesserl

MY ADDRESS – Curitiba/PR – Brazil

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Computer Science undergraduate at Federal University of Paraná (UFPR). Interested in various areas of the computational knowledge, from Algorithm Theory to the study of Operational Systems and Computer Networks.

Experience

Scholarship – Emerging Leaders of the Americas Program (ELAP)

Université de Moncton, sep/2024–dec/2024   **Moncton/CA**

I was accepted as a research intern at Université de Moncton, where I am currently developing research for the PRIMe (Perception, Robotics and Intelligent Machines) laboratory, about using deep learning diffusion models to segment fire in wildfire pictures.

Scholarship – Centro de Computação Científica e Software Livre (C3SL)

Federal University of Paraná, apr/2024–currently   **Curitiba/BR**

As a scholarship holder in the C3SL laboratory at UFPR, I help to create and mantain projects that aim to improve Brazil's digital sovereignty and benefit the Brazilian society in general. In C3SL, I have developed the following activities:

- **Database management**: In the C3SL Database Team, I work with the PostgreSQL and ClickHouse DBMSs, helping to mantain the databases used by other projects in the laboratory.
- **System administration**: Use of the many Linux virtual machines in C3SL's cluster to manage services and test software tools. Use of Docker to containerize those services.

Scholarship – PET Computação UFPR

Federal University of Paraná, jun/2022–feb/2024   **Curitiba/BR**

I was a member of the PET Computação group at UFPR, and I took part in several projects aimed to improve the University and the external society. There, I practiced my creativity and team-working skills on a daily basis, in activities such as:

- **Web Development**: Use of the web framework Ruby on Rails for development of the project ADEGA, a tool for visualizing statistics related to the history of the undergraduate programs.
- **Treasury**: Management of resources earned for investment in equipment for the group.
- **Event planning**: I planned a trip with more than 30 students to participate in the event Roadsec 2023, in São Paulo.
- **Student groups**: I gave classes in student groups for disciplines of the Computer Science program.

Research

- **Forest Fire Image Segmentation**   **Moncton/CA**
  PRIMe (Perception, Robotics and Intelligent Machines) - UMoncton   *sep/2024–dec/2024*
  I am researching deep learning diffusion models for automatic segmentation of fire in images. Advisor: Prof. Moulay Akhloufi, PhD, Department of Informatics – UMoncton.

- **Scientific Initiation**   **Curitiba/BR**
  Federal University of Paraná   *sep/2022–apr/2023*

  I participated in a mathematics research on generalizing arithmetic functions to categories. Topics: category theory and number theory. Advisor: Dr. Eduardo Hoefel, Department of Mathematics – UFPR.

Volunteering

- **Voluntary Roadie**   **São Paulo/BR**
  Roadsec 2023   *jul/2023*

  I worked as an assistant to the main stage, collecting audience questions for the speakers, and remained in communication with the team to resolve any issues throughout the event.

Education

Academic Qualification

- **Bachelor in Computer Science**   **Curitiba/BR**
  Federal University of Paraná   *2022–2026 (expected)*

Abilities

- **Programming languages:** C, Bash, x86-64 Assembly, Pascal, VHDL, TEX, C++, Ruby, JavaScript.
- **Other languages and frameworks:** HTML, CSS, SQL, Bootstrap, Ruby on Rails, Raylib.
- **DataBase Management Systems:** PostgreSQL, ClickHouse, SQLite3.
- **Software tools:** Git, Github/Gitlab, Linux-based Operating Systems, Docker, GDB, Google Workspace, LibreOffice/MS Office.
- **Soft Skills:** good communication, conflict resolution, team management, quick learning.
- **Other:** good writing, abstraction and generalization skills in mathematics, interest in scientific research.

Languages

- **Portuguese** – Fluent
- **English** – Fluent
- **Spanish** – Basic
- **German** – Basic

Interests and extracurricular activities

- I participated in the first phase of the SBC Programming Marathon, in september of 2023, which took place in the Centro Politécnico campus of the Federal University of Paraná.
- I took a German class in the Center of Languages and Interculturality of UFPR (CELIN).
- I created a Tetris-based game in the language C to play in the Linux terminal, available in `https://github.com/pedropesserl/tetric`.
- I developed a physics simulator of gravity applied to bodies in space, also in C, with a GUI written

with the library Raylib. Available in `https://github.com/pedropesserl/nbody`.