# PEDRO HENRIQUE DI FRANCIA ROSSO

Almirante Barroso, 1095 (Apto 1104), Centro, Criciúma-SC, Brasil, CEP 88802-249
+55 (48) 99956-8129 ◇ pedrohrosso@gmail.com | p233687@dac.unicamp.br

## FORMAÇÃO

**Computer Engineering** *2014–2018*
Federal University of Santa Catarina (UFSC) *Araranguá-SC, Brasil*
Participated in programming marathons, class monitor and scientific iniciation fellow [2]. As undergrad final project, I studied image re-coloration for dichromats [1]. Best student of Engineering classes (Computer and Energy) with coeff 9.04 out of 10.0.

**Master in Computer Science** *2019–2021*
Federal University of ABC (UFABC) *Santo André-SP, Brasil*
Ended the course with A coeff in every class. I've presented the thesis: "OCFTL: *an MPI implementation-independent fault tolerance library for task-based applications*" in July of 2021. Supervisioned by Emilio Francesquini.

**PhD in Computer Science** *2021–Current*
Universidade Estadual de Campinas (Unicamp) *Campinas-SP, Brasil*
Currently enrolled as PhD student at UNICAMP, studying Fault Tolerance for OpenMP and MPI. Supervisioned by Guido Araújo (UNICAMP) and Emilio Francesquini (UFABC).

## AWARDS AND DISTINCTIONS

**Honorable mention** ◇ UFSC *2015–2018*
In the last 4 semesters of undergrad, received the Honorable mention by UFSC by obtaining the average semestral coeff above 9.0. From $6^o$ to the $9^o$ semester.

**Best Academic Performance** ◇ UFSC *2018*
In February of 2019, received a medal from Federal University of Santa Catarina for getting the best performance in the Computer Engineering course – 2018.

**Best Student of Engineering Courses** ◇ CREA-SC *2018*
In February of 2019, received a distinction of the Regional Council of Engineering and Agronomy for getting the best academic performance between the Computer and Energy Engineering courses – 2018.

**Paper Awards** ◇ ERAD-SP *2020 e 2021*
In the 2020 and 2021 editions of ERAD-SP, received the best graduate paper award.

## RESEARCH INTERESTS

Following, a non-exaustive list of my research interests:

- High-Performance Computing;
- Fault Tolerance;
- Compilers;
- Parallel and Distributed Computing;
- Computer Architecture.

## EXPERIENCE

**Data Structure class monitor** *2016*
Universidade Federal de Santa Catarina (UFSC) *Araranguá-SC, Brasil*
In the 2 semesters of 2016 I monitored the students of the Data Structures discipline, where did content reviews, exercises and tests. Approved with maximum grade.

**Scientific Iniciation fellow** *2017–2018*
Universidade Federal de Santa Catarina (UFSC) *Araranguá-SC, Brasil*
During the 2nd semester of 2017 and 1st semester of 2018 I participated in a Scientific Initiation project, where a wireless electromyography application was developed. Funded by CNPq.

**Master fellow** *2019–2021*
Universidade Federal do ABC (UFABC) *Santo André-SP, Brasil*
From the year 2019 to 2021 I conducted my master's research focusing on fault tolerance for MPI. Master's work funded by FUNCAMP. During the same period, I was also a participant in the OmpCluster project under the coordination of prof. Guido Araújo (UNICAMP).

**PhD fellow** *2021–Current*
Universidade Estadual de Campinas (Unicamp) *Santo André-SP, Brasil*
Since the year 2021 I have been doing a PhD focused on fault tolerance for OpenMP/MPI. PhD work funded by FAPESP (2021/09355-2). Participating in the OmpCluster project under the coordination of prof. Guido Araújo (UNICAMP).

## SKILLS AND LANGUAGE PROFICIENCY

### Programming Languages and Frameworks

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|---|---|
| More experience | C, C++ |
| Intermediate experience | Java, JavaScript, Node.js |
| Familiarity | Assembly, C#, Bash, CUDA, Javascript, Robotic |

### Tools

- Linux Operating System and utilities (`grep`, `bash`, `make`, etc);
- OpenMP e MPI;
- Source control (`git`) and plataforms (Github, Gitlab, etc);
- Embedded Computing (project, prototyping e software).
- MatLab/Octave.
- Debuggers (`gdb`) e perfiladores (`perf`, `strace`, `ltrace`);
- LLVM compiler.
- `gcc` and `clang` C/C++ compilers;

### Language Proficiency

- **Portuguese** (Native) – understand well; speak well; write well.
- **English** (Advanced) – understand well; speak reasonable; write well.

## EVENT PARTICIPATIONS

**12$^o$ CARLA** ◇ México, Virtual *2021*
Author [5]. Latin America High Performance Computing Conference.

**12$^a$ ERAD-SP** ◇ UFABC/USP, Virtual *2021*
Author [4]. Escola Regional de Alto Desempenho do Estado de São Paulo.

**11$^a$ ERAD-SP** ◇ UNESP/Mackenzie/USP, Virtual *2020*
Author [3]. Escola Regional de Alto Desempenho do Estado de São Paulo.

**28$^o$ SIC** ◇ UFSC, Florianópolis-SC, Brazil *2018*
Author [2]. Seminário de Iniciação Científica.

**7$^o$ SICT-SUL** ◇ UFSC, Araranguá-SC, Brazil *2018*
Author [2]. Simpósio de Integração Científica e Tecnológica do Sul Catarinense.

## LINKS

| | |
|---|---|
| Homepage | https://pedroohr.github.io |
| Github | https://github.com/pedroohr |
| Gitlab | https://gitlab.com/phrosso |
| LinkedIn | https://twitter.com/pedrohrosso |
| Google Scholar | https://scholar.google.com/citations?user=rtONezgAAAAJ |
| Lattes | http://lattes.cnpq.br/5343894554617060 |

## PUBLICATIONS


[1] P. H. D. F. Rosso. Recoloração de imagens para dicromatas baseada em mapas elásticos. 2018.

[2] P. H. D. F. Rosso and R. A. Casagrande. Uma aplicação para monitoramento de eletromiografia em grandes áreas utilizando redes de sensores sem fio. In *7º SICT-Sul-Simpósio de Integração Científica e Tecnológica do Sul Catarinense*, 2018.

[3] P. H. D. F. Rosso and E. Francesquini. A fault tolerant scheduling model for directed acyclic graphs in cloud. In *Anais da XI Escola Regional de Alto Desempenho de São Paulo*, pages 46–49, Porto Alegre, RS, Brasil, 2020. SBC.

[4] P. H. D. F. Rosso and E. Francesquini. Improved failure detection and propagation mechanisms for mpi. In *Anais da XII Escola Regional de Alto Desempenho de São Paulo*, pages 45–48, Porto Alegre, RS, Brasil, 2021. SBC.

[5] P. H. D. F. Rosso and E. Francesquini. Ocftl: an mpi implementation-independent fault tolerance library for task-based applications. In *VIII CARLA - Latin America High Performance Computing Conference. To be published.* Springer, 2021.


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