

# HEITOR PASCOAL DE BITTENCOURT

Physicist | Software Engineer

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## EXPERIENCE

### Python Developer

Itera

📅 August 2019 – Present

📍 São Carlos, Brazil

- Back-end development, expansion, and maintenance.
  - REST APIs • Microservices • Processing Pipelines • A.I. infrastructure • Web back-ends
- System monitoring with Prometheus and Grafana
- Databases: Alfresco • Cassandra • Elasticsearch • AWS S3
- Python Libraries: Numpy • SciPy • Matplotlib • Tesseract • scikit-learn • FastAPI • requests and more
- Misc: RabbitMQ • Docker • Git • SCRUM • AWS EC2

### Researcher

CERN - Data Preservation and Open Access

📅 Aug 2018 – Dec 2018

📍 Geneva, Switzerland

- Data Mining of Physics' datasets to assemble information about the Physics behind the process
- Categorisation of datasets into hierarchical topic categories
- General **portal** improvements: documentation, glossary, markdown engine, and user interface
- Python • Bash • Git • Docker • OpenSource • Flask • ROOT • HPC

### Teaching Assistant

São Carlos Institute of Physics, University of São Paulo

- Feb 2018–Jun 2018: Introduction to Computational Physics
- Jul 2017–Dec 2017: Electronics
- Feb 2017–Jun 2017: Introduction to Computational Physics
- Feb 2012–Jun 2018: Introduction to Programming in C

### Undergraduate Research

São Carlos Institute of Physics, University of São Paulo

📅 Oct 2011 - Feb 2015

📍 São Carlos, Brazil

- Jan 2013–Feb 2015: Evolution and visualization of magnetic profile stimulated with adiabatic RF pulses in NMR.
  - Simulation of Nuclear Magnetic Resonance experiments (C++, CUDA)
  - RF pulse design
- Oct 2011–Sep 2012: Anthropometric scanner for fat percentage determination.
  - Graphical User Interface (Qt under Python)
  - Reconstruction algorithms (C++, Cuda)
  - Integration with custom hardware

## LANGUAGES

Portuguese Native

English Can read, write, speak, and understand well

Spanish Intermediate reading, basic speaking/writing

## SKILLS

C

C++

Fortran

Python

Bash/Shell

LaTeX

Linux

SSH

Docker

Git

Vim

CI/CD

KiCad

Microcontrollers

OpenSource

## EDUCATION

### Master's in Physics

São Carlos Institute of Physics, University of São Paulo

📅 Feb 2017 - Present

📍 São Carlos, Brazil

### Bachelor in Physics (Exchange)

University of Helsinki

📅 Aug 2015 - Jul 2016

📍 Helsinki, Finland

### Bachelor in Physics

São Carlos Institute of Physics, University of São Paulo

📅 Jan 2013 - Jan 2017

📍 São Carlos, Brazil

## EXTRACURRICULAR

### Conference Organizer

- Caipyra 2019 • Caipyra 2018 • Software Freedom Day 2017 - São Carlos

### Projects

- 2016–Present **Basic Python course textbook**
- 2016 **Digital Acquisition System for EPR Spectroscopy**

Last updated on October 27, 2020