

HEITOR PASCOAL DE BITTENCOURT

Physicist | Software Engineer

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EXPERIENCE

Senior Python Engineer

Kobe

Jan 2021 – Present

Remote, Brazil

- DevOps engineer for HPC, maintaining Slurm clusters
- HPC, Slurm, Python, Juju, Git, Linux, bare-metal, cloud, Agile, Scrum

Python Developer

Itera

Aug 2019 – Dec 2020

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 2012: 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 NMR experiments (C++, CUDA, Python)
 - RF pulse design
- Oct 2011–Sep 2012: Anthropometric scanner for fat percentage determination.
 - GUI (Qt under Python) to integrate with custom hardware
 - Reconstruction algorithms (C++, Cuda)

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 HPC

EDUCATION

Master of Science in Physics

São Carlos Institute of Physics, University of São Paulo

Feb 2017 - March 2021 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

PATENTS

- PyMR - A Framework For Programming Magnetic Resonance System (Nov 2019)

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