HEITOR PASCOAL DE BITTENCOURT

Physicist | Software Engineer

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EXPERIENCE

Principal Infrastructure Engineer
Omnivector Solutions

📅 Fev 2021 – Oct 2022   📍 Remote

- Led the Infrastucture team
- SRE engineer for High Performance Computing (HPC)
- Maintaining Slurm clusters with hundreds of compute nodes
- Slurm, Python, Bash, Juju, Linux, Mellanox Infiniband, XFS, Git, Systemd, Fluentbit, Prometheus, Grafana, InfluxDB, etcd, NHC, LXC/LXD, Docker/Podman, Graylog, REST APIs, backend
- Public clouds (AWS, GCP), private clouds (vSphere), bare-metal
- Misc: open-source, observability, documentation writing, Agile, Scrum, Jira, interviewing candidates, troubleshooting

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

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
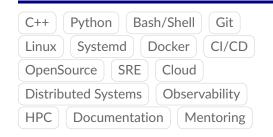 - Reconstruction algorithms (C++, Cuda)

LANGUAGES

Portuguese | Native

English | Can read, write, speak, and undestand well

Spanish | Intermediate reading, basic speaking/writing

SKILLS

C++   Python   Bash/Shell   Git
Linux   Systemd   Docker   CI/CD
OpenSource   SRE   Cloud
Distributed Systems   Observability
HPC   Documentation   Mentoring

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