

Alexandre de Taunay Voloch

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 github.com/voloch  gitlab.com/voloch



Education

University of São Paulo

Bachelor's degree in Physics (IFSC-USP)

2021-2025

São Carlos, SP

• Relevant Coursework:

- Advanced quantum mechanics
- Quantum Information Theory
- Computational physics & comp. quantum mechanics (Python, Numpy, Scipy, Pandas, Qiskit)
- Neural networks for pattern recognition & modeling
- Image processing and analysis
- Statistical analysis & computation
- Modelling of non-linear and chaotic Systems
- Advanced mathematical analysis (calculus I-IV)
- Advanced linear algebra

Technical Skills

Python (advanced): Senior Python developer (10+ years of experience). Experience with quantum computing (Qiskit), neural network development (scikit-learn, keras, tensorflow), scripting (using APIs, requests, etc.), fullstack webdev (Django, Flask), scientific processing & data analysis (Numpy, Scipy, matplotlib, pandas), and image processing.

Other Languages: Fortran (intermediary), Javascript (intermediary), HTML (advanced), CSS (intermediary), SQL (intermediary)

Other Skills: Sysadmin (Windows and Linux), SSH, Cloud Services (DigitalOcean etc.); Mathematical and physics skills; Fast thinking & problem-solving; Able to adapt easily into a team

Language Skills: Portuguese (Native), English (Fluent), German (Intermediary - B2 level), Spanish (Intermediary)

Experience

Scientific Initiation - FAPESP - IFSC-USP

2024 – 2025

Modeling noise in quantum computers using physics-informed neural networks

São Carlos, SP

- Development of quantum circuits using IBM's Qiskit library
- Simulation of quantum systems using Qiskit Dynamics
- Studied the theory and performed simulations of dynamical decoupling for a transmon system
- Development and training of physics-informed neural networks

Tech lead @ Biffy Açougue Digital

2024 – present

Lead developer & project manager

Rio de Janeiro, RJ

- Development of customer service AI agents with tool use utilizing DeepSeek API
- Lead development and maintenance of company platform & automation services.
- Experience working in the fast-paced and changing environment of a startup.
- Scouting and interviewing potential new hires

Filosofísica USP São Carlos

2021 – 2025

Coordinator & treasurer

São Carlos, SP

- Main coordinator and treasurer of a student-led project
- Great experience in developing & doing presentations on a variety of subjects; public speaking

Freelance Python Developer

2014 – present

Programmer, Software Engineer, Project Manager

São Paulo, SP

- Development of API interfaces and online utility chatbots
- FullStack Web Developer for many clients, including Brazilian and international companies
- Optimization and refactoring of existing (sometimes broken) codebases
- Development of backend database interfaces (MySQL, Postgres, MongoDB, Airtable)
- Blockchain development