

# PATRICIO BRUNO

• quantum computing student, developer •

## QUANTUM COMPUTING

- Currently working on my undergrad thesis titled "Noisy quantum teleportation: implementation and certification" analyzing the behaviour of applying different combinations of noisy channels to the protocol's resource state, using Qiskit to simulate the results and comparing them with the theoretical expected teleportation accuracy (directed by G. M. Bosyk and G. Bellomo)
- (2024) Attended the 1st Latinamerican Quantum Software Engineering Workshop
- (2024) Attended the 21st International Conference on Quantum Physics and Logic
- (2021) Quantum Structures & Quantum Information (University of Buenos Aires course) ([certificate](#))
- (2020) Quantum computing course (brilliant.org)

## EXPERIENCE

### Web Development

#### Senior Full-stack Developer at New Technologies (february 2020 - ongoing)

Development of an enterprise web application using an Angular frontend and C# backend. Some notable milestones include:

- Implementation of Server Sent Events
- Development of a full-fledged cache system for optimized performance (including cache invalidation and cache dependencies)
- Developing an OAuth Authorization Server, OAuth Resource Server and OAuth Desktop and Web client from scratch
- Working with different kinds of encryption standards
- Managing databases with SQL Server Management Studio
- Contributing to open source projects
- Designing and performing load and stress tests on the server
- Junior developer selection process and ongoing mentorship

### Machine Learning & Data Science

#### Independent project at New Technologies (april 2022 - august 2023)

- Designed a Deep Learning model based on Siamese Neural Networks to perform Entity Matching and Candidate Ranking, implemented using Pytorch

### Other Projects

- College projects including a regex parser and engine, a basic multi-tasking operating system, a tracerouting tool, different concurrent data structures, among many others.

These projects, as well as many others, can be found on my Github profile.

## EDUCATION

2013 - 2017 • ORT High School.  
Specialized in Information Technologies. Graduated with honours.

2018 - ongoing • Bachelor's degree in Computer Science at University of Buenos Aires.

27 out of 27 courses completed (finishing undergrad thesis)  
Average score : 9.25

## LANGUAGES

2017 - Cambridge English: Advanced (CAE) (C2 Level). Grade A.

## TECH SKILLS

- Typescript
- C/C++
- .NET (C#)
- HTML/CSS
- SQL
- Python
- NodeJS
- Haskell
- Prolog
- Smalltalk
- SQL Server Mgmt. Studio
- Git
- Microsoft Owin
- OData protocol
- OAuth protocol
- Pandas
- Pytorch
- NumPy
- Wolfram Mathematica
- Qiskit