

Gaston Mazzei, MSc Physics, Msc Parallel and Distributed Computing

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Relevant Work Experience (link to LinkedIn recommendations)

- Senior C/C++ Developer** (permanent) Polus Tech 09/22 - current
Description: -Develop and maintain in-house Software Defined Radio and other low-level features for embedded systems inside a very dynamic environment.
-High-level optimization and automation related features using Python3.
- CFD Engineer** (fixed term) Department of Aerodynamics and Propulsion - Higher French Institute of Aeronautics and Space (DAEP, ISAE-SUPAERO) 05/22 - 09/22
Description: -Optimization of Fluid Dynamics Simulator on state-of-the-art supercomputers using Intel MKL's BLAS and LAPACK, and partial migration to NVIDIA GPUs using CUDA C++ API.
-Technologies used include C, C++, MPI and Python. This was a fixed-term four-month job for a public French Lab as part of the Quantum Technologies Fellowship program.
- C++ Developer** (internship) Virtual & Augmented Reality Laboratory (VENISE, LISN CNRS) 01/22 - 05/22
Description: -Design and implementation of Senior Researcher's augmented reality ideas on state-of-the-art experimental embedded systems using C++ and some OpenGL.
-Role included building a server to offload data processing, which was done using Python and Flask.
-This was a four-month internship as part of the Quantum Technologies Fellowship program.
- Network Automation & Optimization Engineer** (permanent) Iquall Networks Inc. 01/21 - 08/21
Description: -Software customization to implement clients' use-cases using Python, NoSQL and C++. Under constant feedback from the clients, automated solutions were implemented inside the company's software.
-Other skills involved include Data Analysis, Agile Methodologies, REST API, System Administration, Linux and CentOS, QA and Client Services, Data Pipelines.
- Physics Machine Learning Developer** (internship) International Center for Advanced Studies (ICAS, UNSAM) 03/20 - 12/20
Description: -Design and implementation of numerical simulations of physical systems in Python and C++ and characterization of the interaction with a neural network using Tensorflow.
-Fullstack Development of an open-source website to enable a simplified and free access to this family of Machine Learning models with academic purposes.
-This internship was part of the MSc. Physics thesis and was 100% remote.
- Jr Business Intelligence Analyst** (fixed term) Kosten Aike Hotel 11/18 - 11/19
Description: -Automation of data collection & processing in order to assist the executive team produce data-driven decisions and ecology compliance reports.
-Main technologies used were Python and Docker.
- Microfluidic Technician** (internship) National Atomic Energy Commission (CNEA) 07/17 - 07/18

Academics

- MSc - QDCS** (M1, 9.0/10) Université Paris-Saclay 09/21 - 04/22
Description: Master M1 in Quantum, Parallel and Distributed Computing, as part of the French Quantum Technologies Fellowship.
- TALENT Summer School** ECT* 07/21
Description: Summer school on Machine Learning applied to physics, at the European Centre for Theoretical Studies in Nuclear Physics.
- BSc + MSc - Physics** (8.5/10) Universidad de Buenos Aires 03/15 - 12/20
Description: 6-year degree called "Licenciatura en Ciencias Fisicas", internationally equivalent to a Bachelor + Master degree in Physics.
- BSc - Experimental Physics** (8.2/10) Universidad de Buenos Aires 03/15 - 08/20
Description: 4-year degree internationally equivalent to a Bachelor in Experimental Physics.

Peer-reviewed Publications

- | Title | Journal |
|---|--|
| Comparison of CoModGans LaMa and GLIDE for Art Inpainting-Completing M.C Escher's Print Gallery | #MachineLearning #ComputerVision NTIRE - CVPR 2022 |
| AI-Friendly.com: Artificial Intelligence Made Friendly | #SoftwareDevelopment #ArtificialIntelligence ASAI JAIIO 50, 2021 |
| Image Inpainting Applied to Art: Completing Escher's Print Gallery | #MachineLearning JIXAI - ICML 2021 |
| Delta Hedging with Transaction Costs: Dynamic Multi-Scale Strategy using Neural Nets | #MachineLearning #GameTheory MACI VIII, 2021 |
| Option Pricing Model with Transaction Costs | #AppliedMathematics #QuantitativeFinance MACI VI, 2017 |

Language Skills

Mother tongue: **Spanish**

Other languages:

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
English	C2	C2	C1	C1	C2
French	B2	B2	B2	B2	B2
Italian	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user.

Technical Skills

Sr. Level
C | C++11 | Python3 | Machine Learning in Python | Signal Processing | Statistical Models | Discrete Numerical Simulations | Physics | Differential Equations | REST API

Ssr. Level
C++17/20 | MPI | OpenMP | Optimization Problems | CFD | CI/CD Tools and Best Practices | SciPy | NumPy | Tensorflow | 32-bit Embedded Systems | Intel compiler

Jr. Level
CUDA | OpenGL | Computer Vision | Computer Graphics | Quantitative Finance | Game Theory and Reinforcement Learning | SQL | MongoDB
Pytorch | BLAS | LAPACK | Eigen | Boost | Google Test | REST API | AWS Cloud Computing | Fullstack Development | Telecommunication Standard and Protocols

Social Skills

Project Management | Patience | Motivation | Sales and Client Interaction | Clear High-level Presentations
Working Independently | Prioritizing in Complex Scenarios | Multitasking | Calmness | Respect | Empathy

NOTE: Documentation supporting every claim, e.g. titles, achievements, and further details about the portfolio are available at the website gastonmazzei.github.io.