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	JLXAI - 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.