Gaston Mazzei, MSc Physics, Scientific Computing Engineer

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Relevant Work Experience (employers' recomemndations are available on LinkedIn)

- **CFD Engineer** (Intern) — Department of 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 migration to NVIDIA GPUs using CUDA.
  -Technologies used include Slurm, MPI, C++ and Python. This is a four-month internship as part of the Quantum Technologies Fellowship program.

- **C++ Developer** (Intern) — 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++, mainly OpenGL and Boost.
  -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** — 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 to optimize the client's metrics.
  -Skills involved include Data Analysis, Agile Methodologies, REST API, System Administration, Linux and CentOS, QA and Client Services, Data Pipelines.

- **Physics Machine Learning Developer** (Intern) — 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** — 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** (Intern) — National Atomic Energy Commission (CNEA) — *07/17 – 07/18*

Academics

- **Quantum Technologies Jr. Fellowship** — Université Paris-Saclay — *09/21 - 04/22*

  Description: Funding for postgraduate studies in Parallel and Distributed Computing via the M1 QDCS 2021 program.

- **TALENT - Training in Advanced Low-Energy Nuclear Theory** — 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** GPA: 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** GPA: 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	C1	C1	C1	C1
FRENCH	B1	B1	B1	B1	B1
ITALIAN	B1	B1	B1	B1	B1

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

Technical Skills

Python | C++ | MPI | OpenMP | Mathematical Models | Physics | Optimization & Metaheuristics | Machine Learning | Statistics | Bayesian Models
REST API | MKL | CUDA | Slurm | BLAS | LAPACK | Boost | OpenGL | Computer Vision | Computer Graphics | NumPy | SciPy | Tensorflow
Deep Learning | Neural Networks | Differential Equations | Game Theory | CI | Fullstack Development | Economics

Social Skills

Dealing with Deadlines | Motivating Colleagues | Clarity during Brainstorming | Insisting with Diplomacy | Building Rapport | Sales & Clients
Presenting Results | Simplifying Complex Scenarios | Multitasking and Followups | Working Independently | Creating a fun working environment

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