**Personal Information**

* **Name:** Gaston Mazzei
* **Age:** 27
* **Gender:** M
* **Pronouns:** he/him
* **Marital Status:** single
* **Citizenship:** Argentina
* **Email:** gastonmazzei95@gmail.com
* **Contact Number:** +33 07 5135 6658
* **Website:** https://gastonmazzei.github.io
* **Github:** github.com/GastonMazzei
* **LinkedIn:** linkedin.com/in/gaston-mazzei-935795184

**Work Experience**

* **Job Title:** Senior C/C++ Developer

**From:** September 2022

**To:** current

**Type:** permanent contract full-time

**Employer:** Polus Tech Switzerland

**Role Description:** Developing and maintaining the in-house Software Defined Radio and other features for embedded systems in the context of a very dynamic environment together with some high-level data analysis automation and optimization which is mainly done using Python3.

**Contact References**: available for request.

* **Job Title:** CFD Engineer

**From:** May 2022

**To:** September 2022

**Type:** fixed-time contract full-time

**Employer:** DAEP – ISAE-SUPAERO (Département Aérodynamique et Propulsion, at ISAE-SUPAERO)

**Role Description:** Optimization of Fluid Dynamics Simulator on state-of-the-art supercomputers using Intel MKL’s BLAS and LAPACK, and further adaptation to CUDA for NVIDIA GPU compliancy. Technologies include Slurm, MPI, C++ and Python. This a four-month internship as part of the Quantum Technologies Fellowship program.

**Contact References**: reviews publicly available at LinkedIn.

* **Job Title:** C++ Developer

**From:** Jan 2022

**To:** May 2022

**Type:** internship part-time

**Company:** VENISE – LISN (Virtual and Augmented Environments for Simulation and Experiments, at the Laboratoire Interdisciplinaire des Sciences du Numérique)

**Role Description:** Design and implementation of Senior Researcher’s augmented reality ideas on state-of-the-art experimental embedded systems using C++ and in particular the libraries OpenGL and Boost. Role included building a server to offload data processing, which was done using Python and Flask. This a four-month internship as part of the Quantum Technologies Fellowship program.

**Contact References**: reviews publicly available at LinkedIn.

* **Job Title:** Network Automation and Optimization Engineer

**From:** Jan 2021

**To:** Aug 2021

**Type:** permanent contract full-time

**Company:** Iquall Networks Inc.

**Role 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.

**Contact References**: reviews publicly available at LinkedIn.

* **Job Title:** Physics Machine Learning Developer

**From:** Mar 2020

**To:** Dec 2020

**Type:** internship full-time

**Company:** ICAS - UNSAM (International Center for Advanced Studies, San Martin University)

**Role Description:** Design and implementation of numerical simulations of physical systems in Python and C++. 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. It was 100% remote, which shows self-motivation and an ability to work independently.

**Contact References**: available for request.

* **Job Title:** Jr Business Intelligence Analyst

**From:** Nov 2018

**To:** Nov 2019

**Type:** permanent contract part-time

**Company:** Kosten Aike Hotel

**Role Description:** Design and implementation of a pipeline. Automation of data collection and processing in order to assist the executive team produce data-driven decisions and ecology compliance reports. Development of containerized software using the followin technologies: Python, Docker, SciPy, NumPy, Tensorflow. Ability to work independently allowed a big part of the job to be carried out remotely.

**Contact References**: reviews publicly available at LinkedIn.

* **Job Title:** Microfluidic Technician

**From:** Jul 2017

**To:** Jul 2018

**Type:** internship part-time

**Company:** CNEA (Argentina’s National Atomic Energy Commission)

**Role Description:** Design and fabrication of microfluidic chips and the characterization and optimization of the manufacturing process in the context of an experimental compulsory-subject for the BSc + MSc Physics degree. Technologies included CAD, Clean Room processes, and data analysis with Python.

**Contact References**: reviews publicly available at LinkedIn.

**Education**

* **Degree:** Master in Quantum, Parallel and Distributed Computer Science

**Period:** Sep 2021 – Apr 2022

**Institution:** Universite Paris-Saclay

**Comments:** formally enrrolled and passed the master M1 QDCS at Paris-Saclay as part of the Quantum Technologies Fellowship, which main purpose was to enable two 4-month internships. Theoretical and hands-on knowledge was acquired in the fields of parallel computing, distributed computing, GPU programming, MPI programming, and formal verification among others.

**GPA:** 15/20

* **Degree:** Master in Physics

**Period:** 2015 – 2020

**Institution:** Universidad de Buenos Aires

**Comments:** 6-year degree, internationally equivalent to a Bsc + Msc in Physics and in Spanish formally called “Licenciatura en Ciencias Fisicas”. Final Academic Transcripts and thesis defense are publicly available at personal website.

**GPA:** 8.4/10

* **Degree:** Bachelor in Experimental Physics

**Period:** 2015 - 2020

**Institution:** Universidad de Buenos Aires

**Comments:** 4-year degree, internationally equivalent to a Bsc Experimental Physics and in Spanish formally called “Asistente de Investigacion en Fisica”. It’s an optional branch from the above mentioned Master degree.

**GPA:** 8.2/10

**Languages**

* **Spanish:** C2
* **English:** C1
* **French:** B2
* **Italian:** A2

**Certifications**

* IELTS UKVI
* TOEIC English

**Awards**

* LXAI Funding for NVIDIA CUDA C++ API Full Day Course
* Quantum Technologies Fellowship – Republic of France
* Best Undergraduate Paper Award – ASAMACI 2017

**Publications**

* **Title:** Comparison of CoModGANs, LaMa and GLIDE for Art Inpainting-Completing MC Escher's Print Gallery

**Journal:** NTIRE – CVPR, 2022

* **Title:** AI-Friendly.com: Artificial Intelligence Made Friendly

**Journal:** ASAI - ISSN 1666-1079 p53-54, 2021

* **Title:** Image Inpainting Applied to Art: Completing Escher’s Print Gallery

**Journal:** LXAI Research Workshop at ICML 2021, id 19

* **Title:** Delta Hedging with Transaction Costs: Dynamic Multi-Scale Strategy using Neural Nets

**Journal:** MACI, ISSN: 2314-3282 pp. 459-462, 2021

* **Title:** Option Pricing Model with Transaction Costs

**Journal:** MACI, ISSN: 2314-3282 pp. 569-573, 2017

**Courses**

* Accelerated Computing with CUDA in C++ at NVIDIA (Remote)
* TALENT (Training in Advanced Low Energy Nuclear Theory) at ECT (Italy)
* Geophysical Fluid Dynamics in FORTRAN at IFAECI (Argentina)
* Machine Learning at Saint Martin University (UNSAM, Argentina)
* Machine Learning at Universite Paris Saclay, (France)
* Optimization at Universite Paris Saclay (France)
* Mathematical Modelling of Complex Social Systems at Buenos Aires University (UBA, Argentina)
* Quantitative Analysis in Finance at Buenos Aires University (UBA, Argentina)
* Exploratory Data Analysis at Buenos Aires University (UBA, Argentina)
* Image Processing at Buenos Aires University (UBA, Argentina)
* Management of Software Projects at Buenos Aires University (UBA, Argentina)
* Algorithms and Data Structures at Buenos Aires University (UBA, Argentina)

**Technical Skills**

* C
* C++11
* Python3
* Machine Learning in Python
* Signal Processing
* Statistical Models
* Discrete Numerical Simulations
* Physics
* Differential Equations
* REST API
* C++17/20
* MPI
* OpenMP
* Optimization Problems
* CFD
* CI/CD Tools and Best Practices
* SciPy
* NumPy
* Tensorflow
* 32-bit Embedded Systems
* Intel compiler
* CUDA
* OpenGL
* Computer Vision
* Computer Graphics
* Quantitative Finance
* Game Theory and Reinforcement Learning
* SQL
* MongoDB
* Pytorch
* BLAS
* LAPACK
* Eigen
* Boost
* Google Test
* AWS Cloud Computing
* Fullstack Development
* Telecommunication Standards and Protocols

**Soft Skills**

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

**Software**

* **Name:** Spectacles Shader  
  **Link:** https://github.com/GastonMazzei/custom-fragment-shader-4Snaptchat-Spectacles
* **Name:** Sparse 3D Information Squeezer  
  **Link:** https://github.com/GastonMazzei/sparse3d-infosqueezer
* **Name:** 3D Streamlines .OBJ Generator  
  **Link:** https://github.com/GastonMazzei/3D-streamlines-obj-generator
* **Name:** AI-Friendly  
  **Link:** https://gastonmazzei.github.io/ai-friendly.com
* **Name:** Network Diffusion and Synchronization Simulator  
  **Link:** https://github.com/GastonMazzei/NEDISS
* **Name:** Tracking Orchestra  
  **Link:** https://github.com/GastonMazzei/tracking-orchestra
* **Name:** Bitcoin Autoencoder  
  **Link:** https://github.com/GastonMazzei/bitcoin-autoencoder.com
* **Name:** TicTacToe Neural Net  
  **Link:** https://github.com/GastonMazzei/tictactoe-neural.net
* **Name:** Covid Arg Fake News  
  **Link:** https://github.com/GastonMazzei/covidarg-fake-news

**Data Analysis and Numerical Simulation Projects**

* **Name:** Characterization of AI Detector over Kernel Trace  
  **Link:** t
* **Name:** Distributed Ring Election Simulation  
  **Link:** https://github.com/GastonMazzei/ring-election-simulation
* **Name:** Synchronous Distributed Algorithms Simulation  
  **Link:** https://github.com/GastonMazzei/distributed-algorithms-graphs-simulation
* **Name:** Fluid Mechanics Data Analysis  
  **Link:** https://github.com/GastonMazzei/fluid-mechanics-frog
* **Name:** Neural Net Learns Algorithms  
  **Link:** https://github.com/GastonMazzei/neural-network-mimic-algorithms
* **Name:** Seasonality Effect on Covid Crash  
  **Link:** https://github.com/GastonMazzei/data-science-usa-unemployment
* **Name:** Tic Tac Toe Simulations with Machine Learning  
  **Link:** https://github.com/GastonMazzei/AIFriendly-tictactoe
* **Name:** Physics Simulation and Machine Learning Analysis - Quantum Tunneling  
  **Link:** https://github.com/GastonMazzei/AIFriendly-quantum-tunneling
* **Name:** Machine Learning Analysis - Exoplanets  
  **Link:** https://github.com/GastonMazzei/AIFriendly-exoplanets
* **Name:** Machine Learning Analysis - Group Theory  
  **Link:** https://github.com/GastonMazzei/AIFriendly-group-theory
* **Name:** Physics Simulation and Machine Learning Analysis - Ising  
  **Link:** https://github.com/GastonMazzei/AIFriendly-ising
* **Name:** Physics Simulation and Machine Learning Analysis – Nonlinear Ordinary Equations  
  **Link:** https://github.com/GastonMazzei/AIFriendly-complex-dynamics
* **Name:** Physics Simulation and Machine Learning Analysis – Higgs Boson  
  **Link:** https://github.com/GastonMazzei/AIFriendly-LHC
* **Name:** Physics Simulation and Machine Learning Analysis – Electrical Circuits  
  **Link:** https://github.com/GastonMazzei/AIFriendly-circuits
* **Name:** Social Experiment and Data Analysis – AI vs Humans, Music Recognition  
  **Link:** https://github.com/GastonMazzei/music-ai-experiment

**Supporting Documentation**

Documentation supporting every claim, e.g. titles, achievements, and further details about the portfolio are available at the website [https://gastonmazzei.github.io](https://gastonmazzei.github.io/).