

# MARIANO CROSETTI

Computer Science (Msc. equivalent) ◊ Argentinian - Italian

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## EXPERIENCE

**QuarkAI - Software Engineer - NLP Specialist** *Santa Clara, CA* *April 2022 - Present*

- Developed a translation system from Natural Language to a Structured Query with 95% recall at 90% precision.
- Integrated the SDQ system into production (optimized to work 23x faster), scaling up to thousands of users worldwide.
- Researched NLP few-shots learning solutions to improve classical search by using LLMs

**Ventilemos - Co-Founder - Tech Director** - ventilemos.com.ar *Argentina* *November 2020 - April 2022*

- Trusted by more than +25 Multinational Companies, +10 Research Institutes and Universities, and +15 Government Institutions.
- PCB design and circuit analysis with Eagle toolkit. Firmware programming in Arduino C++ for Atmega328P.
- Designed and implemented an IoT centralized system (using MQTT and MERN stack for the platform) for ESP32 processor.
- Collaboration with the city, state, and national public decision-makers, joining our company to VentilAR nationwide campaign.

**Santa Fe Electoral System - Machine Learning Engineer** *Argentina* *January 2021 - October 2021*

- Implemented signature recognition at Android app used in National elections making the task safer and 2x faster. Pytorch used.

**Endcoronavirus Volunteer - Data Scientist - Frontend - Sysadmin** - covidargentina.com.ar *May 2020 - December 2020*

- Launched Shiny dashboard covidargentina.com.ar (+1000 users monthly) by collaborating with NECSI and EndCovid.
- WebServer maintenance, databases update crontabs, software patches deployment (CI/CD), SSL certificates, DNS healthy checks.

**Brightsector Algorithms - Machine Learning Engineer** *Argentina* *August 2018 - September 2019*

- Consultant for MercadoLibre, enhancing attribute extraction to boost search capabilities for LATAM's top e-commerce platform.
- Achieved a 350% increase in attribute extraction recall at top GMV product domains, significantly boosting search functionality.

**Google Inc - Software Engineering Intern** at Google Stadia - *Mountain View, California* *January 2018 - April 2018*

- Extended a Chromecast's service to support different (audio/video) settings and device switching.
- Coordinated the cross-functional collaboration with graphics, API, and infrastructure teams.
- Developed in C++ working with PulseAudio and Vulkan. Frontend extended using JS.

**Google Inc - Software Engineering Intern** at Google Codejam - *San Francisco, California* *June 2017 - September 2017*

- Researched, designed, and implemented solutions to improve the user experience and support a larger scale of users.
- Worked on a platform to run Code Jam and other competitions. Worked in C++, using a NoSQL database for storage.
- Attended the Code Jam World Finals 2017 in Dublin as a staff member.

**Politecnico High School - Programing Contest Trainer** *March 2011 - December 2012*

- Before the course, zero student participated. In 2012, 75% of the Argentinian IOI national team came from this school.

## PROJECTS

- Created a problem with a novel application of Segment Tree for 2019 ICPC Latin America Regional. Member of the judge board.
- Assisted as an international professor at Cundinamarca Training Camp 2019: teach about advanced data structures for strings.
- Created a Haskell DSL interpreter for a functional programming language with copatterns (generalization of pattern matching). Improved the work of [Abel, Pientka, Thibodeau, Setzer] by proposing a linear covering algorithm (they introduced NP algorithm).
- Implemented a handwritten signature verification system by using Siamese Network and Triplet Loss. Pytorch + FastAI used.

## SKILLS

<b>Proficiency Programming Languages</b>	C/C++, Python, JavaScript, Haskell, Java
<b>Web Stack</b>	SQL, MongoDB, GraphQL, React, Redux, NodeJS, Express
<b>Data Analysis</b>	Pandas, Numpy, Flask, Dash, R., Shiny
<b>Deep Learning</b>	CUDA, Pytorch, FastAI Library, Keras, TensorFlow
<b>NLP</b>	Stanford CoreNLP, spacy, LLaMa, GPT, Langchain, Llama Index
<b>Software &amp; Tools</b>	GNU/Linux, GIT, Gitlab, Github for collaborative development

## EDUCATION

**Universidad Nacional de Rosario** - Computer Science (BsC + MsC equivalent) - GPA: 9.83/10 *March 2011 - March 2018*

**Friend of Fulbright Scholarship** - Organized by U.S. Embassy *January 2016 - March 2016*

**Instituto Politecnico General San Martin** - High School (second-best grading) *March 2005 - December 2010*

## ACM ICPC COMPETITIVE PROGRAMMING

Biggest global collegiate programming contest with 50,000 participants, focusing on advanced algorithms and teamwork.

<b>ACM ICPC World Finals, Morocco</b>	87° place	<i>2015</i>
<b>ACM ICPC World Finals, Thailand</b>	28° place, <b>Latin American Champion</b>	<i>2016</i>
<b>ACM ICPC World Finals, Portugal</b>	Argentinian official team coach	<i>2019</i>
<b>ACM ICPC World Finals, Egypt</b>	Argentinian official team coach	<i>2023</i>