

Camilo Chacón Sartori

COMPUTER SCIENTIST

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🌐 camilo-chacon-sartori

I solve problems with code, concepts, and curiosity.

Education

Grading scale from 1.0 to 7.0

PhD in Computer Science - Specialized in Artificial Intelligence

Barcelona, Spain

IIIA-CSIC & UNIVERSIDAD AUTÓNOMA DE BARCELONA

2021 - Current

- **Expected completion: September 2025.**
- **Thesis advisor:** Christian Blum.
- Awarded a 4-year scholarship (*Ayudas para contratos predoctorales para la formación de doctores*, 09/2021-09/2025).
- Research in the area of hybrid algorithms combining classical optimization techniques with modern Machine Learning methods (particularly Deep Learning and Large Language Models) to solve combinatorial problems.

M.S. Computer Science

Valparaíso, Chile

PONTIFICIA UNIVERSIDAD CATÓLICA DE VALPARAÍSO

2017 - 2018

- **Graduated with highest distinction. First in my class.**
- **Thesis:** "Solving the non-unicost set covering problem by using three new binary algorithms".
- Relevant courses: *Big Data Mining* (6.7), *Metaheuristics* (7.0), and *Combinatorial Optimization* (7.0).
- Defense grade: 7.0 - Final grade average: 6.9

Bachelor Computer Science

Santiago, Chile

UNIVERSIDAD DE LOS LAGOS

2011 - 2015

- **Graduated with highest distinction.**
- Thesis exam grade: 7.0 - Final grade average: 6.0

Experience

Telefónica R&D Spain

Barcelona, Spain

SOFTWARE DEVELOPER

2018 - 2021

- Contributed to the development of advanced cybersecurity tools for static malware analysis, enabling early detection of malicious executables at scale. Participated in the design of internal components for automated binary analysis.

Telefónica R&D Chile

Santiago, Chile

SOFTWARE DEVELOPER

2017 - 2018

- Designed and deployed big data pipelines to extract actionable insights from urban mobility datasets. Developed an edge-computing prototype on Raspberry Pi integrating video capture, people detection (via computer vision), and Wi-Fi hotspot activation, anticipating smart city use cases.

MiningTag S.A.

Santiago, Chile

SOFTWARE ENGINEER

2013 - 2017

- Led the design and development of the company's core software architecture, improving system robustness and scalability across mining operations.
- Engineered a fault-tolerant queuing system tailored for underground mining environments with unstable connectivity, ensuring continuous data flow and system integrity.
- Reduced communication latency by 30% and increased the reliability of the production control system (ore loads tracking) to over 90%, directly enhancing operational efficiency and decision-making accuracy.

Awards

2022 **Federated Conference on Computer Science and Information Systems (FedCSIS)**, Best Paper Award (Workshop on Computational Optimization).

Scientific
Conference

2014 **MiningTag S.A.**, The company chose me as the best worker of the year 2014, for my contributions to the development of the company's first software.

Company

2018-2021 **Quora (in Spanish)**, I was selected as Best Writer on QuoraES for five consecutive years (2018-2022), for my over 800 answers on computer science.

Social network

Independent Data Science Consultant

2024-current	Vigalab S.A. , Advise on the integration of AI optimization algorithms for production control in mining operations.	Chile
2024-current	Alza Group , Conduct technical due diligence for mining-focused investment fund. Evaluate software architectures and algorithmic soundness of candidate startups.	Chile

Books (in Spanish)

2025	Scientists Divulgation Book , <u>Palabras y Algoritmos - Cómo la IA transformará la escritura.</u>	Marcombo publisher
2023	Technical Book , <u>Principios de programación.</u>	Marcombo publisher
2021	Scientists Divulgation Book , <u>Mentes geniales. La vida y obra de 12 grandes informáticos.</u>	Marcombo publisher
2020	Technical Book , <u>Computación y programación funcional.</u>	Marcombo publisher

Publications

2024	Chacón Sartori, Camilo & Blum, Christian & Bistaffa, Filippo & Rodríguez Corominas, Guillem , Metaheuristics and Large Language Models Join Forces: Towards an Integrated Optimization Approach. Submitted to an international journal. arXiv: https://arxiv.org/abs/2405.18272
2024	Chacón Sartori, Camilo & Blum, Christian & Ochoa, Gabriela , An Extension of STNWeb Functionality: On the Use of Hierarchical Agglomerative Clustering as an Advanced Search Space Partitioning Strategy. Genetic and Evolutionary Computation Conference (GECCO), Melbourne, Australia. Ranking A (CORE).
2024	Chacón Sartori, Camilo & Blum, Christian & Ochoa, Gabriela , Large Language Models for the Automated Analysis of Optimization Algorithms. Genetic and Evolutionary Computation Conference (GECCO), Melbourne, Australia. Ranking A (CORE).
2023	Chacón Sartori, Camilo & Blum, Christian & Ochoa, Gabriela , STNWeb: A new visualization tool for analyzing optimization algorithms. Software Impacts (Journal).
2023	Ramírez Sánchez, Jairo Enrique & Chacón Sartori, Camilo & Blum, Christian , Q-Learning Ant Colony Optimization supported by Deep Learning for Target Set Selection. Genetic and Evolutionary Computation Conference (GECCO), Lisboa, Portugal. Ranking A (CORE).
2023	Chacón Sartori, Camilo & Blum, Christian , Search Trajectory Networks Meet the Web: A Web Application for the Visual Comparison of Optimization Algorithms. International Conference on Software and Computer Applications (ICSCA), Kuantan, Malasia.
2022	Chacón Sartori, Camilo & Blum, Christian , Boosting a Genetic Algorithm with Graph Neural Networks for Multi-Hop Influence Maximization in Social Networks. Best Paper Award (Workshop on Computational Optimization). Federated Conference on Computer Science and Information Systems (FedCSIS), Sofia, Bulgaria. Ranking B (CORE).

Teaching

2024	Bootcamp , <u>Bootcamp de Large Language Models and Artificial Intelligence.</u>	Código Facilito (México)
2023-2024	Bootcamp , <u>Bootcamp de Ciencias de la Computación.</u>	Código Facilito (México)
2023	Master's degree course , <u>Blockchain y Contratos Inteligentes.</u>	Universidad Adolfo Ibañez (Chile)

Skills

Programming	Python, Julia, C++ (OpenMP), C (MPI), Php, Ruby, Javascript/Node.js, Java, C#, Haskell, Perl, Bash, AWK, R, Matlab, Scala
Machine learning	Scikit-learn, Keras, Pytorch, Tensorflow, LLMs tools
Bigdata	Apache Spark, Hadoop, Oozie, Kafka, Drill, Hive, PigLatin
Database	MS SQL Server, Mysql, HBase, PostgreSQL, MongoDB, Redis
Operating System	Unix, MS Windows
Cloud Computing	AWS, Azure

Non-academic Talks

2023	PyDay Barcelona , Introducción a Mojo	<i>Barcelona, Spain</i>
2023	Python Valencia , ¿La optimización prematura es la raíz de todos los males en programación?	<i>Valencia, Spain</i>
2022	PyConES , Introducción a las redes complejas en Python (taller).	<i>Granada, Spain</i>
2022	PyBCN , Aprendizaje a través de grafos: Graph Neural Networks.	<i>Barcelona, Spain</i>
2021	Proin , Fundamentos de la computación: desde una visión matemática, científica y filosófica.	<i>Online</i>
2018	Starsconf , Introducción a Julia.	<i>Santiago, Chile</i>
2018	Proin , Introducción a la computación paralela con Julia.	<i>Santiago, Chile</i>
2016	Proin , Introducción a Machine Learning.	<i>Santiago, Chile</i>
2016	NodersJS , Introducción a ZeroMQ y Node.js: Para construir sistemas distribuidos de mensajería.	<i>Santiago, Chile</i>

Other

Date of birth: 20/04/1989	<i>Castro, Chile</i>
Personal website: http://camilochacon.com/	
Podcast: https://algoritmo.buzzsprout.com/	
Newsletter: https://camilocs.substack.com	