



ANDRÉ ESPÍRITO SANTO

Computer Science Graduate

✉ andre.santo.tic@gmail.com | ☎ +351 913 826 251 | 📍 Zürich | 🌐 andrespiritosanto

PROFILE SUMMARY

I am a highly-motivated EPFL Master graduate who loves to learn and embrace novel experiences. My primary interests in Computer Science lie in Distributed and Concurrent Systems, complemented by a strong enthusiasm for Databases and Machine Learning. I have actively contributed to projects alongside professors, some of which culminated in paper publications, and gained valuable experience through multiple internships.

EDUCATION

Master of Computer Science at École Polytechnique Fédérale de Lausanne (EPFL)

2023 - 2025

Grade: 5.9 / 6

- Specialized in Concurrent and Distributed Systems, and Databases.
- Being at one of Europe's leading universities has instilled in me a sense of responsibility and work ethic.
- In addition to my primary focus, I have acquired significant knowledge in complementary areas including Machine Learning and Natural Language Processing.

Bachelor of Computer Science and Engineering at Instituto Superior Técnico (IST)

2020 - 2023

Grade: 19 / 20

- Attending Portugal's most rigorous Engineering School has cultivated my ability to self-learn, develop resilience, and fostered a keen interest in cutting-edge technologies. I attained the highest overall grade in my year.

Domingos Sequeira High School

2017 - 2020

Grade: 18.3 / 20

- I took a Science high school course. I had 20 out of 20 in the Math and Physics and Chemistry national exams.

WORK EXPERIENCE

Internship at Oracle Labs

2025

- Developed a workload-aware HNSW index optimization algorithm (Master Thesis, Grade: 6/6) that reduces memory footprint by intelligently partitioning vectors into memory-resident and disk-resident tiers, achieving minimal query latency degradation under specified memory budgets.
- Developed expertise in vector search system optimization and rigorous research methodology by analyzing complex production-scale systems alongside expert colleagues, refining both technical problem-solving and systematic investigation approaches.

Internship at SingleStore

2024 - 2025

- I was responsible for designing and implementing the entire infrastructure required to support OAuth integrations within the SingleStore customer portal, including a specific integration with GitHub.
- This project provided me with significant expertise in managing large-scale distributed software infrastructures, including *Kubernetes* clusters and *GraphQL*. Additionally, I have acquired a high level of autonomy by independently designing and implementing the infrastructure for this new feature from the ground up.

Student Assistant in an EPFL course

2024 - 2025

- Served as a student assistant for the TCP/IP course in the EPFL Master's program in Computer Science
- My responsibilities included assisting a Teaching Assistant in preparing lab sessions and addressing student questions. This role provided an opportunity to enhance my communication skills in explaining technical topics .

Internship at VOID Software

2022 - 2023

- Created a gaze-controlled app to be used in storefronts, which was an innovative project within the company.
- I led the project by myself with the supervision of a company employee. This project provided me with the experience of working in a company as well as hard skills within Computer Vision and Networks.

RELEVANT PROJECTS

Accelerating Mixture-of-Experts Model Inference with Expert Sharding (EPFL)

2024 - 2025

Grade: 6 / 6

- Semester Project conducted at the SaCS Lab. Publication at EuroMLSys'25 (paper).
- Optimized GPU utilization by distributing experts' weights across all GPUs, eliminating idle time between communication rounds. Up to a 520% speedup over the baseline.
- Strengthened research proficiency, expertise in model inference, Transformer architectures, and Mixture-of-Experts (MoE) models.

Lattice Agreement System for Distributed Algorithms Course (EPFL)

2023

Grade: 5.9 / 6

- Individual project where I implemented an algorithm for Lattice Agreement among N processes in C++. I later achieved an overall score of 6 in the course.
- In order to implement this project, I also implemented Total Order Broadcast and FIFO Broadcast primitives.

Transactional Memory System for Concurrent Computing Course (EPFL)

2023

Grade: 6 / 6

- Individual project where I implemented a Transactional Memory System for concurrent transactions in C++. I also achieved an overall score of 6 in the course.
- I achieved proficiency in the topic by myself since this topic was out of the lectures' scope.

HARD SKILLS

- C / C++ / Golang
- Java / Python
- Git / Github
- SQL / Scala

LANGUAGES

- English (Fluent)
- Portuguese (Native)
- French (Medium)
- Spanish (Advanced)