Yahya Jabary

jabaryyahya@gmail.com   EU Citizen (Austrian)

+43 650 401 2392   German native, English fluent

Education

ETH Zurich, Master's Thesis · *Machine Learning*   *Jul 2024 - Mar 2025*
TU Wien, Master's Degree · *Computer Science*   *Oct 2019 - Mar 2025*

Experience

University of Cambridge   Remote / Cambridge, UK
Research Assistant, Full-time   *Dec 2025 - present*

· Developing compiler infrastructure for DSLs targeting Machine Learning accelerators ([commit history](#)).

Python   C++   MLIR   LLVM

Qube Research & Technologies   Paris, France
Quantitative Developer (Contract), Full-time   *Apr 2025 - Oct 2025*

· Optimized statistical volatility indicators 2.19x via algorithmic redesign and Rust hot-path migration.
· Engineered zero-copy pipelines, eliminating memory alignment faults at cross-language FFI boundaries.
· Built sub-microsecond signal-processing infrastructure for alpha research and production deployment.
· Modified Zstandard codec internals to support metadata injection with zero performance regression.

Python   Rust   PyO3   Polars   Apache Arrow

ETH Zurich   Zurich, Switzerland
Research Assistant, Full-time   *Jul 2024 - Mar 2025*

· Achieved adversarial robustness at zero inference cost via self-ensembling of intermediate representations.
· Implemented 16k+ lines of PyTorch reproducing SOTA robustness benchmarks with Google collaborators.
· Scaled distributed training 5x faster using gradient compression and model parallelism with Lightning.
· Reduced GPU memory footprint by 40% through large-scale model distillation and memory-efficient kernels.

Python   R   PyTorch Lightning   CUDA   Docker

University of Waterloo   Ontario, Canada
Research Assistant, Full-time   *Sep 2023 - Jun 2024*

· Isolated bare-metal workloads requiring privileged CPU access using FreeBSD Jails at 2% overhead.
· Generated synthetic code-embedding datasets via AST permutations and benchmarked dense retrieval.
· Fast-tracked to PhD admission based on research performance.

Python   C   PyTorch   Faiss   Apache Lucene

Erste Asset Management   Vienna, Austria
Trading Software Engineer (Contract), Full-time   *Apr 2023 - Sep 2023*

· Designed real-time overlay network for low-latency order synchronization using server-sent events.
· Cut inference pipeline network overhead 2.5x through request batching and broker-free messaging.
· Discovered and patched critical timing vulnerability via coordinated server shutdown analysis.

Java   Spring-Boot   Apache Kafka   FIX Protocol

Publications

Jabary, Y. (2025). Rethinking Adversarial Examples (Master's Thesis, ETH Zurich). ([code](#), [pdf](#)).

Jabary, Y., Plesner, A., Kuzhagaliyev, T., & Wattenhofer, R. (2024). Seeing Through the Mask: Rethinking Adversarial Examples for CAPTCHAs. ([press](#), [code](#), [pdf](#))

Subramanian, V. N., Chang, R., & Jabary, Y. (2023). Benchmarking Vector Databases on Code Embeddings. ([pdf](#))

Open Source

autograd.c   Autograd engine with arena-allocated graph nodes and reference-counted tensor lifetimes. ([code](#))
llvm-to-air   World's first open end-to-end Apple GPU compiler toolchain through reverse engineering. ([code](#))
nogil   Outperforming standard library hashing through GIL-bypassing CPython extensions. ([code](#), [pdf](#))

Full portfolio at: github.com/sueszli

Awards & Honors

Qube Research & Technologies / Raspberry Pi Foundation, Nominated Contest Judge	*2025*
Google for Developers, Nominated Community Leader	*2024*
EPFL, Summer Research Institute SuRI Fellowship	*2024*
University of Waterloo, Mathematics International Master's Award of Excellence M-IMAE ($12,500)	*2023*
University of Waterloo, Graduate Research Studentship GRS ($23,081)	*2023*
TU Wien, Institute of Logic & Computation Research Scholarship (€1,200)	*2021*
Austrian Government, National Maker Competition Prize (€3,000)	*2018*
University of Vienna, Early Admission Program in Mathematics for Gifted Students	*2017*