

Samuele TONDELLI

Computer Science and Engineering Student

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“ SUMMARY

Final-year master’s student in Computer Science and Engineering focused on ML systems, GPU computing, and performance engineering. Currently optimizing GPU inference of a graph transformer for protein docking. Background in low-level systems programming, FPGA acceleration, and embedded software. Seeking internship and research opportunities.

🎓 EDUCATION

2024 - Present	Master in Computer Science and Engineering, Politecnico di Milano
2021 - 2024	Bachelor in Computer Engineering, University of Modena and Reggio Emilia . Thesis : "Optimization and synthesis on FPGA of the logarithm of softmax function for neuromorphic accelerators". 110 cum laude

☰ SKILLS

Languages	C/C++, Python, Rust, Assembly, Go, Java
GPU & performance	CUDA, SIMD, AVX-512, Triton, TensorRT, NSight sytems/compute
ML frameworks	PyTorch, Scikit-learn, Hydra, TensorFlow
Hardware & Embedded	Vitis HLS, STM32, Verilog, Xilinx Zynq FPGAs, Raspberry Pi
Dev tools	Linux, Git, Make, CMake, GCC, GDB, Valgrind, Vivado, ModelSim

👜 EXPERIENCE

Feb 2026 Sep 2025	Student Researcher Genomic ML, NECSTLAB, POLITECNICO DI MILANO, Italy ➤ Conducting survey study on ML approaches for single nucleotide variant classification. ➤ Benchmarked 4 models (MLP, XGBoost, Logistic Reg, Random Forest) across 144 genomic datasets. ➤ Reduced training resource usage up to 10x while minimally impacting test performance. ➤ Analyzed pathogenicity prediction on variants of uncertain significance (90% consistency across 72 models). ➤ Paper accepted at IEEE EMBC 2026. MLGenomicsPythonHydraScikit-learn
Sep 2025 Mar 2025	Student Researcher FPGA Deep Space, NECSTLAB, POLITECNICO DI MILANO, Italy ➤ Accelerated ECOS library for autonomous navigation of deep space satellites. ➤ Developed accelerator for sparse matrix computations (SpMV and LDLt kernels) using Vitis HLS and Vivado. ➤ Deployed IP on Kria KD240 and developed a C Linux driver, achieving 2x speedup over software. ➤ Competed in the 2025 edition of the AMD Open Hardware competition. FPGAHLSVitisVivadoXilinxEmbedded systemsC
May 2024 Mar 2023	Software Engineer Intern Formula SAE, MORE MODENA RACING, UNIMORE, Italy ➤ Co-led a team of 4 developing software for combustion and hybrid Formula SAE cars. ➤ Developed live, wireless telemetry (1 Mbps over 500m) using Raspberry Pi 5 and Grafana. ➤ Developed car dashboard software on STM32 controller reading CAN bus data. AutomotiveCRaspberry PiLive telemetryGrafanaSTM32CAN

💻 PROJECTS

GPU ACCELERATED GRAPH TRANSFORMER INFERENCE Master’s thesis Politecnico di Milano, private repository Optimizing GPU inference of a graph transformer for protein docking, in active development. GPUCUDATritonPyTorchGraph TransformerNSight	2026
GRADINO - OPTIMIZED C AUTOGRAD ENGINE  github.com/SamueleTondelli/gradino Autograd engine written in C optimized for CPU training with SIMD acceleration and custom allocators. CDeep learningSIMDAVX-512Arena allocators	2026

🌐 LANGUAGES

Italian	●●●●●
English	●●●●○

+ STRENGTHS

- Curiosity
- Motivation
- Passion