

Tornike Onoprishvili

Machine Learning Engineer

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Profile

Machine Learning Engineer with 6+ years' experience delivering scalable AI solutions in large language models, GPU acceleration, and cloud ML infrastructure. Proven record in AI design, technical communication, and interdisciplinary research spanning AI, computational chemistry, and metabolomics.

Skills

- **Programming:** Python, CUDA C++
- **Frameworks:** PyTorch, TensorFlow, HuggingFace, Triton, vLLM, MLflow, FastAPI, Docker
- **AI/ML:** LLMs, Stable Diffusion, QLoRA, GPU and TPU training
- **Mathematics:** Linear algebra, statistics, complex and functional analysis
- **Languages:** English (C1/bilingual)
- **Soft skills:** Leadership, stakeholder communication, independent research, mentorship

Professional Experience

Machine Learning Engineer, Self-Employed, 2019–present

- Delivered 20+ ML projects for research and industry clients.
- Specialized in LLMs, distributed computing, cloud optimization, and workflow automation.
- Top rated on UpWork, with 100% client satisfaction rate.

Selected Projects

- **SpectruMS:** Designed distributed LLM pretraining on Google TPU (JAX, HuggingFace); engineered novel tokenization for MS2 data; managed AWS infrastructure for 800TB data pipeline.
- **SimMS:** Authored CUDA C++ kernel, achieving 1700x speedup for mass spectra search; reduced AWS search costs by 50x; published in peer-reviewed journal.
- **VIMAGE AI:** Optimized image processing on Vertex AI, reducing costs by 10x; delivered technical documentation and team training.
- **Optical Logic Gates:** Co-authored three peer-reviewed papers designing optical logic gates; designed advanced photonic simulations.

Awards & Honors

- **ISC25 Student Cluster Competition, Germany** (3rd place, 2025): LLM specialist, led QLoRA fine-tuning on \$1M supercomputer under 6kW power budget.
- **Neural Wave Hackathon, Switzerland** (2nd place, 2024): led team to design RAG chatbot for Swisscom.

Education

- **Università della Svizzera italiana**, Switzerland — Master of Computational Science (Double degree), 08/2024–present
- **LUT University**, Finland — Master of Science in Technology, 08/2023–present
- **Free University of Tbilisi**, Georgia — Bachelor of Electrical Engineering, 08/2015–08/2019, summa cum laude