Tornike Onoprishvili

Full-stack Machine Learning Engineer

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Profile

I'm a self-taught AI engineer. I started an AI consultancy company in 2019. Within this company I have helped over 10 startups build and optimize their AI infrastructure. I have a deep knowledge of AI, the AI hardware and the cloud infrastructure. As a graduate from a Swiss university, I'm also **eligible under Switzerland's simplified work permit rule**.

Skills

- **Programming Languages**: Python, CUDA, TypeScript
- **Tech Stack**: FastAPI, PyTorch, PostgreSQL, Next.js, Vercel, Tailwind, Google Cloud, AWS
- **Skills**: Team Leadership, AI Research, Mentorship
- **Languages**: English (C1/bilingual), Georgian

Professional Experience

AI Engineer, Self-employed, 2019–2025

I built AI tools and platforms for several startups. Notable projects:

1. **SimMS**: I built the fastest search engine for chemicals with advanced GPU algorithms using Python and CUDA at Pangea Bio [1]. Published in *Bioinformatics* [2].
2. **SpectruMS**: I made a custom LLM for chemistry at Pangea Bio. The LLM has 1B parameters, uses the BART architecture, and is trained on Google TPUs with JAX. Work presented at ICCS25 [3].
3. **VIMAGE**: I redesigned the back end for the VIMAGE AI to run on Vertex AI [4]. I made the AI service more accurate, 10x faster, and added CI/CD automation [5].

Awards

ISC25 Student Cluster Competition. built supercomputer with eight H200 GPUs and set up SLURM. Benchmarked HPC scientific applications and set up distributed PyTorch fine-tuning script for LLama3.1-8B. Achieved the second best out of ten performance with 115.6 samples per second (see certificate and report).

Neural Wave Hackathon, Lugano, 2025: Built RAG AI chat-bot for Swisscom customer support and won CHF2.5k. Swisscom reached out to add our solution to production. See showcase and code.

Academic Experience

- **Thesis**, "On Graphics Processing Units for Simulation of Mass Spectra" (watch my talk)
- **MSc in Computer Science**, **USI**, Switzerland, and **LUT**, Finland, 2023–2025
- **BSc in Electrical Engineering**, **Free University**, Georgia, 2015–2019