Hugo Jarkoff

Machine Learning Software Engineer (MSc.)

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ML Software Engineer with 5+ years of experience in designing, training and deploying models at scale; passionate by Distributed Systems and everything Computer Science related.

Experience

- **Addactis (formerly NamR, acquired in 2025)** — Paris, France
  ML/CV Software Engineer — 2024 - present

  High-impact contributions to aerial imagery ML and software products:
  - Refactored the team's ML training framework, reducing time from data acquisition to production release by over 50%.
  - Redesigned the team's aerial imagery processing pipelines with serverless Cloud Run deployments, cutting legacy codebase size and reducing data integration time for ML workflows.
  - Optimized the team's ML inference framework with PyTriton on serverless GPUs, reducing inference costs by enabling autoscaling to zero.
  - Architectured, developed and deployed an AI Agent platform (FastAPI + Pydantic-AI) integrating in existing SaaS insurance products.

- **Finegrain** — Paris, France
  ML/CV Software Engineer — 2024 (4 months)

  State-of-the-art generative model finetuning for image editing:
  - Finetuning of several pretrained models, including Segment Anything and Stable Diffusion, by using adapters (LoRAs, IP-Adapter) on target layers; lecture of scientific articles, keeping up with the latest advancements in the field.
  - Contributions to the team's high-performance OSS micro-framework for foundation model adaptation (Refiners).

- **Invoxia** — Paris, France
  R&D Machine Learning Engineer — 2021 – 2024

  Led multiple end-to-end ML projects from research to deployment:
  - Designed a CV-based signal processing model to estimate canine respiratory rate from accelerometer data; achieved 98.5% accuracy (preprint available).
  - Researched and adapted neural architectures (CNNs, Vision Transformers), focusing on model compression for embedded deployment.
  - Deployed ML models to 10k+ production devices via Kubernetes and AWS SageMaker, with real-time monitoring (Grafana, Prometheus).

- **Sopra Steria (for NavBlue - Airbus)** — Toulouse, France
  End-of-Studies Team Project — 2019 – 2020
  - Developed an airport image segmentation and classification system using fully convolutional neural networks (UNet).

Education

- **ISAE-SUPAERO** — Toulouse, France
  Engineering Degree (MSc.) — 2016 – 2020
  - *Major in Machine Learning*: Deep Learning (Computer Vision, NLP) - Reinforcement Learning - MLOps practices (databases architectures, Docker containerization, cloud computing).
  - *Minor in Advanced Mathematics*: Advanced statistics (non-parametric estimation, Bayesian statistics, stochastic algorithms) - High-performance and parallel computing - Modeling and analysis of multiphysics systems - Optimization.

- **Lycée Louis-le-Grand** — Paris, France
  Preparatory Classes — 2014 – 2016
  - *PCSI - PC**: Mathematics - Physics - Chemistry - Computer Science.

Technical Skills

- **Programming**: Python (OOP, design patterns, async APIs with FastAPI); Shell scripting; Familiar with C, C++, Java, Lua (Neovim).
- **Deep Learning**: PyTorch, TensorFlow, Keras.
- **MLOps & Infrastructure**: Docker, Kubernetes, Terraform, GitLab CI/CD, NVIDIA Triton, WandB, ClearML.
- **Databases**: PostgreSQL, PostGIS.
- **Cloud Platforms**: Google Cloud Platform (GCP), Amazon Web Services (AWS).

Languages

- **French**: Native language.
- **English**: Full professional proficiency. *TOEFL ITP*: 633/677.

Personal Projects and Diverse Interests

- **Language Models Training**: RapGPT: Personal project consisting in training (from scratch) a Transformers-based language model to generate French Rap lyrics. Demo running on HF; weights also on HF; training code on GitHub.
- **Rock Climbing / Mountaineering**: Experienced climber and mountaineer (over 20 years of practice). Built a custom tool for measuring finger force (ESP32 soldered with deformation gauge, embedded with C software).