

Hugo JARKOFF

Machine Learning Software Engineer (MSc.)

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ML Software Engineer with 4+ years of experience in designing, training and deploying ML/CV models at scale, with an emphasis on Research & MLOps practices.

EXPERIENCE

- **NamR** Paris, France
ML/CV Software Engineer 2024 - present
 - Various high-impact contributions to the team's training and inference pipelines, promoting good software practices (OOP, Design Patterns, CI/CD).
- **Invoxia** Paris, France
R&D Machine Learning Engineer 2021 – 2024 (3 years)
Several projects led successively :
 - Development and training of a CV model for human detection and counting using high frequency radar waves.
 - Development and training of a signal processing (CV approach) model for estimation of the respiratory rate of dogs using accelerometer signals from a connected medical collar. Average model accuracy exceeding 98.5% (preprint available on *bioRxiv*).
 - Research on neural networks architectures: reviewing scientific literature, adapting and modifying existing models (CNNs, Vision Transformers), research on model compression for embedded deployment in the collar.
 - Contributions to the team's model training pipeline: rapid detection and correction of outlier data, code refactoring for high performance data preprocessing.
 - Deployment of the collar's models in production to more than 10k users (and growing) using Kubernetes and AWS SageMaker. Real-time performance monitoring of the cluster using Grafana and Prometheus, identifying improvements in the deployment.
- **Institut Louis Bachelier** Paris, France
End-of-Studies Internship 2020 (6 months)
 - Research project on online learning for training recurrent neural networks.
- **Sopra Steria (for NavBlue - Airbus)** Toulouse, France
End-of-Studies Team Project 2019 – 2020
 - Automatic segmentation and classification of airport images 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 (database 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 languages**: Python (OOP, Design Patterns), C, HTML/JS.
- **Deep Learning frameworks**: PyTorch, Tensorflow, Keras.
- **MLOps / DevOps**: Docker, Kubernetes, Flask, MongoDB, Wandb, ClearML.
- **Computer Vision**: OpenCV, scikit-image.
- **Cloud Computing**: AWS, GCP.

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.
- **Generative Models Finetuning**: 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.
- **Rock Climbing / Mountaineering**: Experienced climber and mountaineer (over 15 years of practice).