

# MORGAN GIRAUD

## ML engineer and Tech lead

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## PROFILE SUMMARY

Passionate ML & Web engineer, skilled in Python, and its diverse set of ML frameworks (TF, PyTorch, JAX). Also skilled in JS/TS and web app engineering. Proficient in working with on-site and remote diverse teams.

Notable experiences:

- Being a core original contributor to the open-source library, [tf-encrypted](#), for privacy-preserving machine learning in TensorFlow, which was accepted at the NeurIPS 2018 PPML workshop
- My research internship on Gounded language learning and modality fusion for which you can find the [annotated slides here](#)
- Founded a company in 2012 called Explee, an online platform for creating animated videos.

## SKILLS

- Proficient in Python with experience in TensorFlow, PyTorch, and Jax (Local and Distributed Settings).
- Strong knowledge in infrastructure engineering (AWS, Docker, Linux) and management (CI/CD, git, etc.).
- Average knowledge of CUDA and Triton.
- Notion of C++ and Golang.
- Proficient in TypeScript/JavaScript and PHP.
- Fluent in French and English, with limited working proficiency in Italian.

## RESEARCH & ENGINEERING INTERESTS

- ML scalability: Reducing the need for compute by improving data and models efficiency, and building scalable infrastructure and algorithms for ML research and deployments.
- Traditional-ML enhanced LLMs: especially LLMs enhanced with external planner, critics and verifiers.
- Explainable/Interpretable Machine Learning: developing tools to open-up the blackbox.
- Reinforcement Learning (RL), especially Multi-agent RL and LLM-enhanced agents to improve human-agent interactions.

## WORK EXPERIENCE (ordered by date)

### WoW Studio | Tech lead

*Apr 2022 – Nov 2023 | Location: Remote*

Led a remote team of 5 technical professionals at [WoW Studio](#), a tech and media company that develops innovative experiences and products using blockchain technologies. (Ethereum L1/L2).

- Remotely led the development of the highly successful WoWG NFT collection.
- Actively participated in the developer hiring process by conducting interviews and creating technical assessments to evaluate candidates, ensuring a highly skilled team.
- Delivered [multiple web application](#) by coordinating and supervising developers' work.
- Established effective processes for task organization, promoting collaboration and transparent communication within the remote team. (main tools: Asana and Github)
- Served as the main contact for technical matters, offering guidance, support and code reviews to team members to enhance their skills and overall efficiency.

### Leniax | ML engineer

*2020 - 2022 | Location: Remote*

Built [Leniax](#), a JAX library to apply state-of-the-art quality-diversity algorithms to the Continuous Cellular Automata Lenia:

- Explored the under-researched direction of QD algorithms in the Lenia domain, focusing on both algorithm design and implementation.
- Organized interdisciplinary research meetings with mathematicians and ML researchers.
- Published Leniax, a fully-fledged software to facilitate the use of QD algorithms on Lenia.

### ANITI | ML research internship

*Jun 2020 - Sep 2020 | Location: Toulouse, France*

Research internship on [Grounded Language Learning in simulated environments](#) at ANITI (Artificial and Natural Intelligence Toulouse Institute):

- Conducted research under the supervision of [Rufin VanRullen](#).
- Created [annotated slides](#) for the final presentation
- Project done using PyTorch: <https://github.com/ruflab/soc>

### TF-encrypted | ML engineer

*2018 | Location: Remote*

Core original contributor to the Open Source library for privacy-preserving Machine Learning in TensorFlow: [tf-encrypted](#) accepted at the NeurIPS 2018 PPML workshop. [Associated research paper](#)

- Contributed to the prototype that enabled [Cape Privacy](#) to secure its first seed round of funding.
- Developed discretized functions for neural networks, enabling training and inference to be conducted in cryptographic settings for enhanced privacy.
- Played a significant role in the Golang implementation of specific components within the project.



## **Freelance | ML engineer**

*2016 - 2019 | Location: Remote*

Explored various machine learning techniques, including:

- GANs for video compression (2019)
- [Deep reinforcement learning with world models](#) (2017)
- Unsupervised NLP (embedding, token prediction) and CV style transfer (2016)
- Blogger at <https://medium.com/@morgangiraud> (Main subject: ML engineering)

## **EatWith, MyLittleParis | Web Developer**

*Jul 2015 – Jan 2016 | Location: Paris, France*

Worked as a freelance PHP/JavaScript developer, optimizing technical stacks, developping applications and structuring technical processes for both clients.

## **ECV Digital | Teacher**

*Oct 2015 – Jan 2016 | Location: Paris, France*

Taught two semester-long classes: PHP/MySQL and Algorithm/JavaScript, introducing students to programming languages, ecosystems, and basic algorithm concepts.

## **Explee | Co-founder & CTO**

*2012 – 2021 | Location: Paris, France*

Co-founded the startup Explee as its CTO: an online platform for creating animated videos.

- Developed the entire technical stack for Explee.
- Built and managed a complex distributed web application infrastructure using AWS, Docker.
- Designed and developed the video rendering engine in JavaScript.
- Created computer vision algorithms for automatic drawing.
- Designed and managed the MySQL database.

## **EDUCATION:**

### **Telecom SudParis - Engineer's Degree (MSc in Computer Science)**

*2009 - 2012 | Location: Evry, France.*

Leading graduate school of engineering and part of the Institut Mines-Télécom, a top institute for Information and Communication Technology in France.

### **Berthollet - Classes préparatoire**

*2007 - 2009 | Location: Annecy, France.*

Intensive courses in advanced mathematics, including algebra and calculus, and physics, preparing for the highly selective entrance exams to the French "Grandes Ecoles."