

Oreistein Pierre

Machine Learning Engineer

EU Citizen

A mathematician with 4+ years of professional experience, building and deploying state-of-the-art Deep Learning models at ByteDance (TikTok) and beyond. Passionate about Artificial Intelligence and optimization. Looking to join ambitious teams to uncover the ground principles of "learning" together.

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📍 Singapore

🌐 [linkedin.com/in/pierre-oreistein](https://www.linkedin.com/in/pierre-oreistein)

WORK EXPERIENCE

Computer Vision Engineer, Video Understanding ByteDance (TikTok) [🔗](#)

09/2021 - Present Singapore
I lead the classification of TikTok user videos into a robust and comprehensive taxonomy and work closely with XFN teams (Product Managers, Strategists, Ops, IT, Data Engineers) to drive scaled monetization: \$XXM impact driven and counting.

- Lead efforts to deploy in production LLMs and [foundational model](#) for universal video tagging (XXXM videos tagged per day across Xk tags).
- Lead efforts to improve annotations quality and efficiency with [active learning](#).
- Co-developed a [self-supervised learning](#) model for multi-modal embeddings.
- Supervise intern teams in the region on R&D projects.
- Pre-process big data (> 1 PB) with internal infrastructure using Hive and Spark.
- Use the latest technologies to train models on distributed clusters (PyTorch, Ray, Lightning, DeepSpeed, FSDP).
- Deploy models in production (conversion to TensorRT, Docker) and lead internal best practices (Python).
- Conduct regular model audits, develop real-time dashboards and design on-call rules book and alarms for monitoring model performance in production.

Technology Used : Python, PyTorch, Weights and Biases, HuggingFace, Scikit-Learn, XgBoost, Polars, Pandas, HiveSQL, PySpark, Hydra, GitLab, Jupyter, VsCode.

Data Scientist FieldBox.ai [🔗](#)

12/2019 - 09/2021 Singapore
First employee in APAC. I successfully led data science projects for AI deployment in core industries, which enabled the region to be profitable in Year 2 (revenues grow 60x YoY)

- Acted as the data and engineering lead for all APAC clients, liaising closely with the headquarters (Bordeaux, France).
- Achieved AI model delivery KPIs across all clients managed in the 2 years period.
- Automated roads & drains monitoring with [EfficientNet](#) for a SG govt agency.
- Created an AI model to forecast public transportation utilisation.
- Delivered a [survival AI model](#) for predictive maintenance in oil&gas.
- Co-hired the APAC technical team and trained new team members.

Technology Used : Python, SQL, Pandas, Keras, Tensorflow, Scikit-Learn, Xgboost, Kedro, GitLab, Docker, Jupyter, VsCode.

Research Assistant Riken, Center for Advanced Intelligence Projects [🔗](#)

05/2019 - Present Tokyo
Part of the Approximate Bayesian Inference Team ([Emtiyaz Khan](#)). I developed functional methods for estimating the uncertainty of neural networks.

- Received the Highest Awards from the Jury for my [master thesis](#) on Efficient Bayesian Deep Learning.
- Developed equivalent of [VAdam](#) in functional space.
- Onboarded other team members in Bayesian Inference and Kernel methods.

Technology Used : Python, PyTorch, Scikit-Learn.

TECHNICAL SKILLS

Machine Learning

Python, SQL, Rust, C++ | PyTorch, Keras, TF | Scikit-Learn, Xgboost | Pandas, Polars

BigData - MLOps

HiveSQL, PySpark | Kedro, Hydra | Git, GitLab | Docker

Software Development

VsCode, Bash, Linux.

PERSONAL PROJECTS

Paper - A New Euclidean Geometry for True Linear Time Optimal Transport (08/2021 - 12/2023) [🔗](#)

- Publication expected early 2024. Preprint on demand.

Personal Blog in Rust (10/2022 - Present)

- [Learning Rust](#) to build a personal blog

EDUCATION

M.Sc Computer Science (Master MVA)

École Normale Supérieure Paris-Saclay [🔗](#)

09/2016 - 10/2019

Paris, GPA - 4.95 / 5.00

- Top 5% of the program.
- Relevant coursework: Deep Learning (Theory and Practice) • Reinforcement Learning • Convex Optimisation • Statistics • BioStatistics • Operations Research • C++.
- Best post-grad masters in AI in France, Top university in Europe - [Le Monde article](#).

B.Sc in Engineering

École Nationale des Ponts et Chaussées [🔗](#)

09/2013 - 07/2016

Paris, GPA - 4.80 / 5.00

- Top 5% in France-wide entrance examination - *Concours Commun Mines-Ponts*.
- École des Ponts ParisTech is the **7th** amongst [top small university](#) in the world (2023).

REFERENCES

Ran Bi, Product Manager, ByteDance (TikTok)

"Extremely appreciate your patience, your openness, your candid and clear answers, as well as your attitude to grow with the product and the business. I never felt you are a XFN teammate, but just our own RD!"

Julien Budynek, VP of Data Science, FieldBox.ai

"Pierre is an outstanding Data Scientist, with analytical, technical, and inter-personal capabilities that go far beyond this denomination."

Emtiyaz Khan, Approximate Bayesian Team Leader, Riken

"Pierre demonstrated exceptional academic proficiency coupled with an insatiable curiosity."

CERTIFICATES

GRE - Q: 169 / V: 165 - TOEFL: 112 (2021)

Workera, DeepLearning.ai - DL and NLP Courses [🔗](#)

LANGUAGES

English, French

Native or Bilingual Proficiency

Spanish

Professional Working Proficiency