








JULIEN DENIZE

SOFTWARE AND MACHINE LEARNING ENGINEER

CONTACT

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SKILLS

Software Engineering / DevOps

Machine Learning

PyTorch, Scikit-Learn, TensorFlow,
Transformers

MLOps

Git, Kubernetes, Docker, MLFlow, Slurm

Languages

Python, Bash, JavaScript, SQL, Java, C

Soft skills

Problem solver
Communication
Teamwork
Autonomy

EDUCATION

PhD in Computer Science

CEA List, INSA Rouen

2020-2023

Machine Learning and Computer Vision

Master of Engineering in Computer Science

Télécom SudParis

2017-2020

Major in Artificial Intelligence
Minor in Software Engineering

LANGUAGES

Native french
Full professional English
Elementary Spanish and German

WORK EXPERIENCE

Machine Learning Engineer CEA List

February 2024-
Palaiseau, France

Technical leader of a MLOps stack for an R&D department of **80 people**:

- **Data ingestion, versioning and processing** for Computer Vision and NLP.
- **Distributed training** on SLURM and Kubernetes clusters to enhance scalability and performance.
- **Model registry** via **MLFlow** and **testing** to ensure model **reliability**.
- **Local deployment of models**.
- **Job orchestration** to optimize resources usage.

Developer on multiple projects to scale proof of concepts:

- a security system based on **multi-modal** data thanks to **VLMs** and **LLMs**
- a platform to **train transformers**, and **evaluate and monitor** the performance cost of **quantization** and **modifying the architecture** for on-edge applications.

Open-source contributor:

- **Torchaug**: efficient batched and on-GPU data augmentations.
- **Pixano**: multi-modal data exploration and annotation tool **empowered by AI**.

Advisor for the computing clusters to estimate needs **GPUs**, **CPUs** and **storage** with limited budget but high-performance needs.

— **PyTorch**, **Kubernetes**, **MLFlow**, **Transformers**, **Slurm**, **Hydra**, **SQL**, **TypedScript**, **CI/CD**, **GitHub Actions**

ML Researcher - PhD Candidate CEA List

December 2020-December 2023
Palaiseau, France

Thesis: Self-supervised representation learning for image and video analysis

Research and Development:

- Published new state-of-the-art **deep learning** methods in **international conferences and journals**.
- Developed **open source libraries** in PyTorch available on my GitHub:
 - Eztorch: efficient **pretraining and fine-tuning of CNNs and Transformers**.
 - Torchaug: efficient batched and on-GPU data augmentations.
- **Optimized parallelized code to run distributed deep learning experiments** on clusters managed by Slurm and Kubernetes.
- Participated in the **international action spotting challenge SoccerNet2023** and finished 5th out of 12 teams.

Teaching:

- Designed and taught a **course on the basics of deep learning** (computer vision, NLP, generative models) for the BDMA Master at CentraleSupélec.
- Trained my service of around 80 people on how to effectively use the **FactoryIA HPC cluster to accelerate deep learning experiments**.

Management:

- Supervised two six-month internships of MSc students.
 - Member of the living committee to maintain a healthy working environment.
- **PyTorch**, **TensorFlow**, **Hydra**, **Slurm**, **Kubernetes**, **CI/CD**, **GitHub Actions**

ML Research Intern CEA List

March-September 2020
Palaiseau, France

People re-identification and cross-domain adaptation via generative models

- Implemented state-of-the-art **deep learning** methods to perform cross-domain person re-identification.
- Proposed a new state-of-the-art competitive approach using **Generative Adversarial Networks** and **pseudo-labeling**.

— **PyTorch**, **Slurm**

Data Scientist Intern Continental

June - September 2019
Regensburg, Germany

- **Analyzed and visualized manufacturing data** in collaboration with experts from Industry 4.0 factories using AWS (EC2, Kibana, Elastic Search).
- Implemented machine learning algorithms to **detect manufacturing anomalies and predict maintenance**.

— **Keras**, **Numpy**, **Scikit-Learn**, **Pandas**, **AWS**