

Julien Denize

📍 5 Route de Saclay, 91120 Palaiseau, France

✉ julien.denize@hotmail.fr ◊ 📞 (+33) 6 64 14 91 65

🔄 github.com/julienzenize ◊ 🌐 linkedin.com/in/julien-denize

📄 juliendenize.github.io ◊ 📄 scholar.google.com/citations?user=scvqKWgAAAAAJ

EDUCATION

CEA List, Université Paris-Saclay / INSA Rouen, Normandie Université 2020 - today
PhD in Computer Science Palaiseau, France

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

Advisor: Professor Romain Hérault.

Télécom SudParis, Institut Polytechnique de Paris 2017 - 2020
Master of Engineering in Computer Science Evry, France

Major in Artificial Intelligence.

Preparatory classes, Lycée François-René De Chateaubriand 2015 - 2017
Major in Maths and Physics Rennes, France

Preparatory classes for highly competitive exams to enter the French *grandes écoles*.

Baccalauréat Scientifique, Lycée Emile Littré 2012 - 2015
Major in Computer Science Avranches, France

Highest honors (*Mention très bien*).

WORK EXPERIENCE

CEA List 2020 - today
Machine Learning PhD Student Palaiseau, France

- Published new state-of-the-art **deep learning** methods in **international conferences and journals** described in the *Publications* section.
 - **Developed open source libraries** in PyTorch called Eztorch and Torchaug to perform efficient training of **Transformers and CNNs** described in the *Projects* section.
 - **Optimized parallelized code to run distributed deep learning experiments** on clusters managed by Slurm and Kubernetes.
 - Supervised two six-month internships of MSc students.
 - Member of the living committee to maintain a healthy working environment.
- **PyTorch, TensorFlow, Slurm, Kubernetes, CI/CD, GitHub Actions**

CEA List March - September 2020
AI Research Intern Palaiseau, France

- 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**

Continental June - September 2019
Data Scientist Intern 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**

- **Managed technical projects** from negotiation and hiring to project delivery.
 - **Maintained the IT infrastructure** including the website and CRM platform.
 - Developed and **deployed an accommodation web platform** for a public institute.
- **HTML5, CSS3, JavaScript, PHP, SQL, Symfony, Docker**

PROJECTS

Eztorch: library for self-supervised training on images and videos 2021 - 2023

Open-source and available on Github: github.com/julienzenize/eztorch

Developed a Pytorch library for efficient self-supervised learning and finetuning on images and videos.

— **PyTorch, Matplotlib, GitHub Actions**

Torchaug: library for data augmentations 2023

Open-source and available on PyPi and Github: github.com/julienzenize/torchaug

Developed a Pytorch library to perform efficient GPU and/or batched data augmentations with CI/CD.

— **PyTorch, CI/CD, GitHub Actions**

Action Spotting for Soccer Matches 2023

Challenge SoccerNet 2023

Finished 5th out of 12 international teams to detect actions with high precision in soccer matches.

— **PyTorch**

Hackathon GPU 2023

Organized by the IDRIS and NVIDIA

Optimized a library code to perform deep learning and reduced by 50% the training pipeline time.

— **PyTorch**

On Shelf Availability (OSA) Prediction 2020

In collaboration with the startup Acuity-Data

Analyzed data and implemented machine learning algorithms to predict OSA on 200 hypermarkets.

— **Numpy, Pandas, Matplotlib, Scikit-Learn, TensorFlow**

Job Recommendation Platform 2020

Project for a class course, Télécom SudParis: <https://github.com/julienzenize/LinkedIn-IA316-2020>

Implemented machine learning agents to recommend jobs in a simulated LinkedIn environment.

— **TensorFlow, Scikit-Learn**

PUBLICATIONS

International Conference Proceedings

- **Julien Denize**, et al. "Similarity Contrastive Estimation for Self-Supervised Soft Contrastive Learning". In the *Proceedings of the IEEE/CVF Winter Conference on Applications*, 2023.

International Journals

- **Julien Denize**, et al. "Similarity Contrastive Estimation for Image and Video Soft Contrastive Self-Supervised Learning". In *Machine Vision and Applications*, 2023.
- *Adrien Maglot, *Astrid Orcesi, **Julien Denize**, et al. "Individual Locating of Soccer Players from a Single Moving View". In *Sensors*, 2023.

Under review

- **Julien Denize**, et al. "COMEDIAN: Self-Supervised Learning and Knowledge Distillation for Action Spotting using Transformers". In *arXiv*, abs/2309.01270, 2023.

National conferences

- **Julien Denize**, et al. "Estimation Contrastive de la Similarité pour un Apprentissage Flou Auto-Supervisé". In *Conférence sur l'Apprentissage Automatique (CAp)*, 2022.

TALKS

Workshop Franco-Allemand "Computer Vision"

June 2022

Speaker for the DATAAI institute, Inria Domaine de Voluceau - Rocquencourt

Presented our work "Similarity Contrastive Estimation for Self-Supervised Soft Contrastive Learning".

TECHNICAL SKILLS

Computer Languages

Python, Bash, SQL, Java, JavaScript, C

Deep Learning

Pytorch, Tensorflow, Jax

Machine Learning and Data Analysis

Numpy, Scikit-Learn, Pandas, Matplotlib

MLOps

Git, Slurm, Docker, Kubernetes, AWS

Web

HTML5, CSS3, PHP, Symfony

Systems

Unix, Windows

SOFT SKILLS

Leadership, Project management, Communication, Teamwork, Autonomy.

LANGUAGE PROFICIENCIES

Native French, Full Professional English, Elementary Spanish and German.

INTERESTS

Technologies, Video games, Content creation, Environment and Politics.