

Sacha Khosrowshahi

 sacha.khosrowshahi@telecom-paris.fr

 +33 7 81 13 29 90

 Sacha Khosrowshahi

 sachkho

 Paris

ACADEMIC EDUCATION

MSc IASD (Artificial Intelligence, Systems, Data)

PSL University

Sept. 2025 – June 2026

- Research oriented Master degree that includes courses such as: Reinforcement learning, Mathematics of Deep Learning, LLM for code and proof, NN architectures (Transformers, VAE, GAN ...)
- Common courses with Master MVA @ ENS Paris-Saclay: Optimal Transport, LLM for code and proof, Machine Learning with kernel methods, Point Clouds and 3D modeling

Master of Science in Engineering (Diplôme d'ingénieur)

Télécom Paris - Institut Polytechnique de Paris

Sept. 2023 – June 2025

- Applied Mathematics: Time Series Analysis, Advanced Statistics, Linear Models
- Computer Vision: GANs, Diffusion Models, Video tracking, Object detection, Segmentation.
- Artificial Intelligence and Machine Learning: Optimization for Machine Learning, Deep Learning, NLP

Preparatory Class for Grandes Écoles (CPGE)

Science Track MP - Lycée Marcelin-Berthelot

Sept. 2021 – June 2023

- Intensive program preparing for highly competitive entry into France's top engineering schools
- Focused on advanced Mathematics, Physics, and Engineering Sciences

NOTABLE PROJECTS

Semantic StyleGAN | Computer Vision Research Project

- Developed a PyTorch framework for semantic editing of StyleGAN latent space (pose, expression, lighting) using PCA, classifier guidance, and feature map analysis.

Finalist @ Google "Solve for Healthcare & Life Sciences" Hackathon | Machine Learning Hackathon

- Accelerate drug discovery by fine-tuning MedGemma to generate interpretable captions of cell-painting microscopy images
- Fine-tuned MedGemma (Google multimodal LLM) with LoRA adapters on the BBBC021 cell-painting dataset to generate structured captions (compound, SMILES, concentration, mechanism of action).

Improving GAN Precision & Recall | Deep Generative Models – GMM & Gradient Flow

- Implemented and compared two complementary methods to improve GAN quality–diversity trade-off on MNIST: Gaussian Mixture Models to structure the latent space, and Discriminator Gradient Flow to refine latent vectors via energy-based optimization.
- Developed latent-space gradient refinement using f-divergence and entropy regularization, allowing continuous navigation along the precision–recall frontier via hyperparameters η , γ , and t .
- Evaluated models using FID, kNN-based Precision/Recall, and ablation on hyperparameters

NBA Scouting algorithm | Machine Learning Personal Project

- Designed and implemented a predictive model to forecast NCAA players' NBA success via Player Efficiency Rating (PER)
- Built data processing pipelines handling multi-table merging, missing data imputation (KNN), normalization, feature engineering (40 features, 900 players)
- Leveraged XGBoost for regression, analyzed feature importance, and evaluated model performance (RMSE, R^2 , MAE), identifying key limitations such as dataset size and feature relevance.

SKILLS

Programming: Python (TensorFlow, PyTorch, Scikit-learn, Pandas), C, TypeScript, SQL, L^AT_EX, Hugging Face

Languages: French (Native), English (Bilingual), German (Intermediate proficiency), Italian (Intermediate proficiency)