KISHANTHAN KINGSTON

AI/ML Research Engineer

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kishanthankingston.github.io/

PROFESSIONAL EXPERIENCE

AI/ML Research Engineer

Institut Pierre-Simon Laplace (IPSL)

April 2025 – Present | Paris, France

- Leading the development and scaling of **diffusion-based generative models** trained on climate datasets (ERA5, CERRA, CMIP6)
- Performed rigorous evaluation of **uncertainty, robustness, and physical consistency** of high-resolution projections
- Scaled model training on **HPC infrastructure** (Slurm-based GPU clusters) for large-scale experimentation
- Contributed to a **modular and scalable toolbox** for **high-resolution image generation** and visualization of climate simulations
- **First author** of a research paper on generative modeling, submitted to **Climate Informatics 2026** (under review)

Research Engineer – Medical Image Segmentation

Dassault Systèmes

February 2024 – August 2024 | Vélizy-Villacoublay, France

- Implemented and evaluated **deep learning segmentation models** (nnU-Net, UneXt, Morphological Snakes) across heterogeneous clinical datasets
- Improved model **robustness and generalization** through advanced preprocessing and harmonization strategies
- Conducted **quantitative evaluation** using Dice, Hausdorff, SSIM, and PSNR
- Co-authored a peer-reviewed publication presented at **FIMH 2025** and published by Springer Nature

R&D Engineer – Signal Processing and Machine Learning

ISIR – Sorbonne University

May 2023 – August 2023 | Paris, France

- Developed machine learning models for **clinical decision support** in **hepatic encephalopathy**
- Extracted and engineered **prosodic, spectral, and acoustic features** from patient speech signals
- Trained and compared **machine learning models** (SVM, Random Forest, Gradient Boosting, neural networks) for classification
- Collaborated with physicians at **La Pitié-Salpêtrière Hospital**
- Co-authored an abstract presented at the **EASL 2024 Congress**

TECHNICAL SKILLS

- **Languages:** Python, C++, MATLAB
- **Machine Learning:** PyTorch, TensorFlow, Diffusion Models, Transformers, CNNs, scikit-learn
- **Data & Tools:** NumPy, Pandas, OpenCV, scikit-image, Hugging Face, Keras
- **Systems & Engineering:** Linux, Git, HPC (Slurm), GPU Training

EDUCATION

Master's Degree in Automation and Robotics – Specialization in Intelligent Systems Engineering (ISI) – Honors

Sorbonne University (UPMC – Paris 6)

Sept 2022 – Aug 2024

Relevant coursework: Machine Learning, Deep Learning, Computer Vision, NLP, Human-Machine Interaction

Bachelor's Degree in Physics – Honors

University of Paris (Diderot – Paris 7)

Sept 2018 – Aug 2022

Relevant coursework: Electromagnetism, Signal Processing, Quantum Physics

PUBLICATIONS

- **Kingston, K.**, et al. *IPSL-AID: Generative Diffusion Models for Climate Downscaling from Regional to Global Scales*. Submitted to Climate Informatics 2026 (under review).
- Chetoui, A., Evain, E., **Kingston, K.**, et al. *Semantic Video Diffusion Models for Long Echocardiogram Generation*. International Conference on Functional Imaging and Modeling of the Heart (FIMH), 2025.
- Leproux, A., Kheloufi, L., **Kingston, K.**, et al. *Development of a screening tool for covert hepatic encephalopathy through automated speech signal analysis in patients with chronic liver diseases*. Journal of Hepatology, Volume 80, 2024.

RESEARCH INTERESTS

- Generative AI (Diffusion Models)
- Multimodal Learning (Vision, Clinical Data)
- Trustworthy AI (Robustness, Uncertainty)
- Healthcare AI (Medical Imaging)
- Scalable ML Systems (HPC, Distributed Training)

LANGUAGES

French - C2
Tamil - C2
English - B2/C1