

Armand Kassai Koupai

PhD student at Sorbonne Université, ISIR, MLIA team

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French PhD student working on deep learning for parametric PDEs and multi-physics at Sorbonne Université. My primary focus is out-of-distribution generalization, generative modeling, foundation models for Science.

Education

PhD in Computer Science – Sorbonne Université (ISIR)

Advisor: Patrick Gallinari

- PhD thesis – Physics-based Deep Learning for parametric PDEs and multi-physics: in and out-of-distribution generalization

MSc in Data Science [w/ distinction]– University of Bristol

- Machine Learning, Deep learning, NLP, statistics, probability

Diplôme d'ingénieur (MSc) – ENSEA

- Signal Processing, Computer Science, Applied mathematics

Selected Publications

Zebra: In-Context and Generative Pretraining for Solving Parametric PDEs

2024

Louis Serrano, Armand Kassai Koupai, Thomas X Wang, Pierre Erbacher, Patrick Gallinari

Preprint

GEPS: Boosting Generalization in Parametric PDE Neural Solvers through Adaptive Conditioning

2024

Armand Kassai Koupai, Jorge Misfut Benet, Yuan Yin, Jean-Noël Vittaut, Patrick Gallinari

NeurIPS 2024

Learn to adapt parametric solvers under incomplete physics

2024

Armand Kassai Koupai, Yuan Yin, Patrick Gallinari

ICLR Workshop 2024

Operator learning with neural fields: Tackling pdes on general geometries

2023

Louis Serrano, Lise Le Boudec, Armand Kassai Koupai, Thomas X Wang, Yuan Yin,

Jean-Noël Vittaut, Patrick Gallinari

NeurIPS 2023

Self-supervised multimodal fusion transformer for passive activity recognition

2022

Armand Kassai Koupai, Mohammud J Bocus, Raul Santos-Rodriguez, Robert J Piechocki, Ryan McConville

IET WSS

Experience

University of Bristol

AI Scientist and Researcher in Radar Fusion

Nov 2021– Nov 2022

- Working for the OPERA project under the supervision of Robert Piechocki, in collaboration with UCL and the University of Oxford.

- Research on self-supervised learning, multi-modality fusion, transformers

SustainEcho

Data engineer intern

May 2019 – August 2019

- The first platform that uses AI to automate the Carbon Footprint of construction projects directly from measurements.

- Tools: ElasticSearch, Python (NLP), Neo4j

Renault Group

Signal processing intern

June 2018-August 2018

- French multinational automobile manufacturer established in 1899. Assisted the R&D team specialized in Sound

- Tools: Matlab

Community service

Teaching

Introduction to Data Science (40h) • Bachelor level • Teacher assistant

Sorbonne Université

Machine Learning (40h) • Master level • Lecturer

École Lerebours

Introduction to Artificial Intelligence (40h) • Bachelor level • Lecturer

École Lerebours

Conference reviewer

ICML 2024 - NeurIPS 2024 - ICLR 2025 - AISTATS 2025

Skills

Programming languages: Python, Java, C, Shell

Packages: Pytorch, Scikit-Learn, Jax, Numpy, Pandas

Tools: Linux, Latex, Git, JupyterLab, Weights and Biases

Languages: French, English, Persian