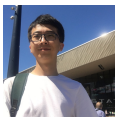
Yuan YIN



yuan-yin-nn yuan-yin.github.io French, English, Mandarin Montrouge, Île-de-France, France

PROFESSIONAL PROFIL

Passionate about cutting-edge AI technologies, especially in **Machine Learning** (ML) and **Deep Learning** (DL), I specialize in pioneering **Neural Network** methods for analyzing physical **dynamics**, notably impacting fields like weather forecasting.

This expertise allows me to develop DL/AI solutions for complex real-world challenges by innovating upon existing methods, and integrating DL approaches into existing non-ML systems. Additionally, it provides me with opportunities to work on other topics, such as **Computer Vision** (CV).

EXPERIENCE

Valeo.ai *Paris, France*

- **AI Researcher** Dec 2024 ⓟ Present
- **Postdoctoral AI Researcher** Apr 2024 ⓟ Nov 2024
  Ego-centric accident generation for robust self-driving cars

Sorbonne Université, *ISIR, MLIA Team* *Paris, France*

- **Postdoctoral Researcher** Jul 2023 ⓟ Dec 2023
  Supervising ongoing research projects & making a tutorial on physics-aware DL
- **PhD Student, Teaching Assistant** Oct 2019 ⓟ Jun 2023
  Supervised by Patrick GALLINARI & Nicolas BASKIOTIS
  Physics-Aware DL and dynamical systems: DL-physics hybrid modeling; Out-of-distribution generalization for dynamics modeling; Continuous dynamics modeling
- **Research Intern in Deep Learning** Feb 2019 ⓟ Sep 2019
  Imputing spatiotemporal data with generative models

Inria Paris *Research Intern in NLP* Feb 2018 ⓟ Jul 2018
Beihang Univ. *Research Intern in CV* May 2015 ⓟ Jun 2016

EDUCATION

Sorbonne Université *pka UPMC (Paris-6)* *Paris, France*

- **PhD** in Machine Learning and Deep Learning Jun 2023
- **MSc2 DAC** *Master Data Science Paris* 2019

Université Paris Cité *pka U. Paris-Diderot (Paris-7)* *Paris, France*

- **MSc1 MPRI** *Parisian Research Master in Comp. Sci.* 2018
- Univ. Dipl. in French Language and Civilization 2017

Beihang University *#12 University in China* *Beijing, China*

- **BSc** in Computer Science 2016

TECHNICAL SKILLS

OS & Hardware Platform	Linux servers equipped with NVIDIA GPUs
Programming	Python (PyTorch, JAX, etc.), C/C++, Java, LaTeX, Matlab, OCaml, iOS Dev, SQL
Tools	Git, Emacs, VS Code, Eclipse

LANGUAGES

French Bilingual *last exam ▷ C1 (2017)* ●●●●◐
English Full Professional *last exam ▷ B2 (2015)* ●●●●◑
Mandarin Native ●●●●●

PROFESSIONAL PROFICIENCY

Scientific Monitoring Demonstrated through diverse research topics inspired by extensive literature.

Research Communication First-authored publications in top-tier international ML conferences (NeurIPS, ICLR, ICML). Presentations and invited talks in academy and industry.

Extensive Collaboration All research projects stem from internal and external collaborations.

Community Contribution Served as a reviewer for top-tier international ML conferences and workshops.

DISTINCTIONS

Accessit for the 2024 AI Thesis Prize from the French Association for Artificial Intelligence (AFIA)

Top Reviewer at NeurIPS 2023

COMMUNITY SERVICE

Conference Reviewer at NeurIPS 2021-24, ICLR 2023-25, ICML 2022-25, ECML-PKDD 2021, and ACM Multimedia 2021

Workshop Reviewer at ML4PS at NeurIPS 2022-24, Physics4ML at ICLR 2023, SynS&ML at ICML 2023, and ROAM at ECCV 2024

Teaching in French during 3 yrs at Sorbonne Université in Engineering Department (UFR 919). For undergrads: C Programming (L1), Algorithmics (L2), Probabilities (L3). For postgrads: ML Research Methodology (M2)

PUBLICATIONS

Conference Papers

** Equal contribution*

- A. Kassaï Koupaï, J. Mifsut-Benet, **Y. Yin**, J.-N. Vittaut, and P. Gallinari. Boosting generalization in parametric PDE neural solvers through adaptive conditioning. In *NeurIPS 2024*.
- **Y. Yin***, M. Kirchmeyer*, J.-Y. Franceschi*, A. Rakotomamonjy, and P. Gallinari. Continuous PDE dynamics forecasting with implicit neural representations. In *ICLR 2023*. **(Spotlight)**
- L. Serrano, L. Le Boudec, A. Kassaï Koupaï, **Y. Yin**, T. X. Wang, J.-N. Vittaut, and P. Gallinari. Operator learning with neural fields: Tackling PDEs on general geometries. In *NeurIPS 2023*.
- M. Kirchmeyer*, **Y. Yin***, J. Donà, N. Baskiotis, A. Rakotomamonjy, and P. Gallinari. Generalizing to new physical systems via context-informed dynamics model. In *ICML 2022*. **(Spotlight)**
- **Y. Yin**, I. Ayed, E. de Bézenac, N. Baskiotis, and P. Gallinari. LEADS: Learning dynamical systems that generalize across environments. In *NeurIPS 2021*.
- **Y. Yin***, V. Le Guen*, J. Donà*, E. de Bézenac*, I. Ayed*, N. Thome, and P. Gallinari. Augmenting physical models with deep networks for complex dynamics forecasting. In *ICLR 2021*. **(Oral, also in J. Stat. Mech.: Theory Exp.)**

Journal Papers

- E. Le Naour, L. Serrano, L. Migus, **Y. Yin**, G. Agoua, N. Baskiotis, P. Gallinari, and V. Guigue. Time series continuous modeling for imputation and forecasting with implicit neural representations. *TMLR*, 2024.
- C. Metta, A. Beretta, R. Guidotti, **Y. Yin**, P. Gallinari, S. Rinzivillo, and F. Giannotti. Improving trust and confidence in medical skin lesion diagnosis through explainable deep learning. *Int. J. Data. Sci. Anal.*, 2023.
- D. Huang, R.K. Zhang, **Y. Yin**, Y.D. Wang, and Y.H. Wang. Local feature approach to dorsal hand vein recognition by centroid-based circular key-point grid and fine-grained matching. *Image Vis. Comput.*, 2017.

Workshop Papers

- **Y. Yin**, P. Khayatan, É. Zablocki, A. Boulch, and M. Cord. ReGentS: Real-world safety-critical driving scenario generation made stable. In *ECCV 2024 Workshop on W-CODA*.
- L. Le Boudec, E. de Bézenac, L. Serrano, **Y. Yin**, and P. Gallinari. Learning iterative algorithms to solve PDEs. In *ICLR 2024 Workshop on AI4DiffEqtnsInSci*.
- L. Serrano, L. Migus, **Y. Yin**, J. A. Mazari, J.-N. Vittaut, and P. Gallinari. INFINITY: Neural field modeling for reynolds-averaged navier-stokes equations. In *ICML 2023 Workshop on SynS & ML*.
- L. Migus, **Y. Yin**, J. A. Mazari, and P. Gallinari. Multi-scale physical representations for approximating PDE solutions with graph neural operators. In *ICLR 2022 Workshop on GTRL*.
- **Y. Yin**, A. Pajot, E. De Bézenac, and P. Gallinari. Unsupervised inpainting for occluded sea surface temperature sequences. In *CI 2019*.

Preprints *not peer-reviewed*

- **Y. Yin**, A. Pajot, E. de Bézenac, and P. Gallinari. Unsupervised spatiotemporal data inpainting, 2020.

Presentations and Invited Talks

Please find the details of the talks on my website

In-Person Poster Session at ECCV 2024	Sep 2024
Workshop on *Mathematical Foundations of AI* at DATAIA-SCAI	Jan 2024
Seminar at Valeo.ai	Jan 2024
Seminar UMR MIA Paris-Saclay at AgroParisTech	Nov 2023
Seminar LAGA-MCS at Univ. Sorbonne Paris Nord	Nov 2023
Tutorial at ECML-PKDD 2023	Sep 2023
PhD Defense	Jun 2023
Seminar of Signal Processing Lab (LTS4) at EPFL	May 2023
Spotlight Conference Presentation at ICLR 2023	May 2023
AI4Science Talks at ML for Simulation Lab at Univ. of Stuttgart & NEC Labs Europe	Apr 2023
SIG LearnFluidS at ∂'Alembert, Sorbonne Univ.	Mar 2023
Medical Biology Engineers Day of AP-HP	Mar 2023
Seminar at Criteo AI Lab	Nov 2022
Seminar Sorbonne-ISAE-CERFACS	Oct 2022
Spotlight Conference Presentation at ICML 2022	Jul 2022
Seminar at Extrality (Now Ansys SimAI)	Feb 2022
Conference Presentation at NeurIPS 2021@Paris	Dec 2021
AAAI 2021 Spring Symposium MLPS	Mar 2021