

Xiaoyu BIE | Résumé

✉ xiaoyu.bie@telecom-paris.fr • [xiaoyubie1994.github.io](https://github.com/xiaoyubie1994)

Professional Experience

Télécom Paris, Institut Polytechnique de Paris

Information Processing and Communication Laboratory (LTCI)

Palaiseau, France

Postdoc Researcher

Jan. 2024 - Dec. 2025

- Advisor: [Gaël Richard](#)
- Involved in the ERC Advanced Grant Project [Hi-Audio](#) (Hybrid and Interpretable Deep Neural Audio Machines)
- Projects: source separation/dereverberation, audio representation learning, audio generation

Meta AI

Facebook AI Research (FAIR Labs)

Menlo Park, USA

Research Intern

Sep. 2022 - Jan. 2023

- Advisor: [Alexei Baevski](#)
- Team collaborators: [Apoorv Vyas](#), [Wei-Ning Hsu](#), [Michael Auli](#)
- Project: Learning disentangled discrete latent representation for speech data with self-supervision.

Education

Inria & Université Grenoble-Alpes

France

PhD student in Computer Science

2019-2023

- Supervisors: [Xavier Alameda-Pineda](#), [Laurent Girin](#)
- Thesis: Dynamical Variational Autoencoders for Multimedia Processing

CentraleSupélec, Université Paris-Saclay

France

M.Sc. in Signal and Image Processing

2017-2018

Institut d'Optique, Université Paris-Saclay

France

Diplôme d'Ingénieur in Applied Optics

2016-2018

Huazhong University of Science and Technology

China

B.Sc. in Optical and Electronic Information

2012-2016

Awards

2021: Bosch AIoT Scholarship (50 in China)

2021: ISCA Travel Grant to Interspeech 2021

2019: Recipient of the [MIAI](#) Ph.D. Fellowship, France

Community Service

Reviewer

Conferences: ICASSP'23-24, WASPAA'23, ICCV'23, CVPR'23, ACM MM'20-23

Journals: IEEE/ACM TASLP, Neural Networks, CVIU

Publications

* equal contribution, † corresponding author

Books

[B1]: Laurent Girin, Simon Leglaive, **Xiaoyu Bie**, Julien Diard, Thomas Hueber and Xavier Alameda-Pineda, "Dynamical Variational Autoencoders: A Comprehensive Review", Foundations and Trends in Machine Learning, Now Publisher, 2021. ISBN: 978-1-68083-912-8 [[arXiv](#)] [[Paper](#)] [[Project page](#)] [[Tutorial](#)] [[Code](#)]

Journal papers

[J1]: **Xiaoyu Bie**, Simon Leglaive, Xavier Alameda-Pineda and Laurent Girin, "Unsupervised Speech Enhancement using Dynamical Variational Auto-Encoders", IEEE/ACM Transactions on Audio, Speech and Language Processing (**TASLP**), vol. 30, pp. 2993-3007, 2022. [[arXiv](#)] [[Paper](#)] [[Project page](#)] [[Code](#)]

Conference papers

[C3]: Xiaoyu Lin, **Xiaoyu Bie**, Simon Leglaive, Xavier Alameda-Pineda and Laurent Girin, "Speech Modeling with a Hierarchical Transformer Dynamical VAE". IEEE International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**), 2023. [[Paper](#)]

[C2]: Wen Guo*, **Xiaoyu Bie***, Xavier Alameda-Pineda and Francesc Moreno-Noguer, "Multi-Person Extreme Motion Prediction", IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022. [[Paper](#)] [[Project page](#)] [[Code](#)]

[C1]: **Xiaoyu Bie**, Laurent Girin, Simon Leglaive, Thomas Hueber and Xavier Alameda-Pineda, "A Benchmark of Dynamical Variational Autoencoders applied to Speech Spectrogram Modeling", Conference of the International Speech Communication Association (**Interspeech**), 2021. [[Paper](#)] [[Project page](#)] [[Code](#)]

Thesis

[TH1]: **Xiaoyu Bie**, "Dynamical Variational Autoencoders for Multimedia Processing", PhD Thesis, Université Grenoble Alpes, 2023.

Preprint

[U2]: **Xiaoyu Bie***, Wen Guo*, Simon Leglaive, Laurent Girin, Francesc Moreno-Noguer and Xavier Alameda-Pineda, "HiT-DVAE: Human Motion Generation via Hierarchical Transformer Dynamical VAE", preprint, 2022. [[Paper](#)]

[U1]: **Xiaoyu Bie***, Dexiong Chen*, Xiaodong Cun and Xi Shen, "Learning Discrete Representation with Optimal Transport Quantized Autoencoders", preprint, 2022. [[Paper](#)]

Tutorials and Invited Talks

- Invited talk on "Dynamical Variational Autoencoders, from Theory to Applications" at Nanjing University, October, 2023 [[link](#)]
- Invited talk on "Dynamical Variational Autoecoders" at miHoYo, July, 2023