

Education

- Dec 2021 – Sep 2025 (expected)

PhD Student in Deep Learning for Speech Enhancement, *Conservatoire National des Arts et Métiers (Cnam)*, Paris, France, Advisor: Professor Éric Bavu
 - Research: Deep learning-based bandwidth extension for body-conducted speech
 - Contributions: EBEN, Vibravox dataset, speech evaluation, neural audio codecs
 - 180 seconds summary in French: [YouTube link](#)
- 2020–2021

MSc in Mathematics and Machine Learning (MVA), *ENS Paris-Saclay*, France
 - Focus: Deep Learning, Convex Optimization, Sparse Methods, Speech/NLP/Image Processing
 - Official transcript: [link](#)
- 2017–2020

MSc in Signal Processing and Computer Science, *ENS Paris-Saclay*, France
 - Focus: Signal/Image Processing, Information theory, Digital Electronics, Telecommunications
 - Ranked 9th/202 in the Agrégation de Sciences Industrielles (Computer Science option)

Experience

- Sep 2023 – Feb 2024

AI Engineer, *Pulse Audition (acquired by EssilorLuxottica)*, Sophia-Antipolis, France
 - Built Deep Learning training pipeline for hearing enhancement glasses; worked on multi-channel spatial filtering; deployed real-time DNNs and exported models via ONNX for embedded inference
- 2022 – 2023

Teacher assistant, *École des Ponts Paristech*, France
 - Hands-on sessions of Pascal Monasse’s "Algorithms and Data Structure" teaching unit.
- 2021

Research Intern – ASR System, *French Ministry of the Armed Forces*, Paris, France
 - Optimized end-to-end ASR models (wav2vec 2.0, Conformer-CTC) using self-supervised learning for deployment in low-resource languages.
- 2019

Research Intern – Computer Vision, *Columbia University*, New-York, USA
 - Segmented CT imaging data with ML models at Heffner Biomedical Imaging Lab

Selected publications

- 2025

Julien Hauret, Malo Olivier, Thomas Joubaud, Christophe Langrenne, Sarah Poirée, Véronique Zimpfer, Éric Bavu, Vibravox: A Dataset of French Speech Captured with Body-conduction Audio Sensors , Speech Communication, 2025, p. 103238.
- 2023

Julien Hauret, Éric Bavu, Thomas Joubaud, Véronique Zimpfer, Configurable EBEN: Extreme Bandwidth Extension Network to enhance body-conduction speech capture, IEEE/ACM Transactions on Audio, Speech, and Language Processing, 2023, vol. 31, p. 3499-3512.
- 2025

Julien Hauret, Éric Bavu, Real-time speech enhancement in noise for throat microphone using neural audio codec as foundation model, Accepted at WASPAA 2025 - Demo track
- 2025

Samir Sadok, Julien Hauret (equal contribution), Éric Bavu, Bringing Interpretability to Neural Audio Codecs, Accepted at Interspeech 2025
- 2025

Thomas Joubaud, Julien Hauret, Véronique Zimpfer, Éric Bavu, French Listening Tests for the Assessment of Intelligibility, Quality, and Identity of Body-Conducted Speech Enhancement, Accepted at Interspeech 2025
- 2023

Julien Hauret, Thomas Joubaud, Véronique Zimpfer, Éric Bavu, EBEN: Extreme bandwidth extension network applied to speech signals captured with noise-resilient microphones, In : IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023

Skills

- Languages

Python, Bash, \LaTeX , C++
- ML Frameworks

PyTorch, Lightning, Hydra, Scikit-Learn, Ray
- Audio/NLP Tools

TorchAudio, HuggingFace Transformers, Scipy, Librosa, NeMo, pyloudnorm, auraloss, whisper-timestamped, kyutai/moshi
- Infrastructure

Slurm, OVH, HuggingFace Datasets, Jean Zay (HPC)

Extras

- Reviewer

JASA (2025)
- Languages

French (native), English (C1 level at Cambridge Advanced)
- Hobbies

Tennis, Surfing, DJing, Paragliding, Running
- Portfolio

[Vibravox website](#)