Maxime Poli

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Last updated: April 22, 2024

EDUCATION

Nov. 2023 - Today	**PhD student, ÉCOLE NORMALE SUPÉRIEURE, CoML team** Supervised by Emmanuel Dupoux and Emmanuel Chemla
2021 - 2022	**Master's degree in Mathematics and Computer Science** **ENS PARIS-SACLAY, MVA (Mathematics, Computer Vision and Machine Learning)** Speech and NLP, Object Recognition, 3D Computer Vision, Deep Learning, Deep Reinforcement Learning, Convex Optimization, Optimal Transport, Kernel Methods, Computational Statistics.
2018 - 2022	**Engineer's degree in Mathematics and Computer Science** **ÉCOLE DES PONTS PARISTECH** Computer Science, Machine Learning, Computer Vision, Statistics and Data Analysis, Optimization, Spectral Analysis, Operational Research.
2016 - 2018	**Preparatory classes, Lycée Montaigne, Bordeaux** Preparatory classes for the highly competitive entrance exams to the *Grandes Écoles*. Intensive preparation in Maths and Physics.

WORK EXPERIENCE

Oct. 2022 - Sep. 2023	**Research engineer, ÉCOLE NORMALE SUPÉRIEURE, CoML team** Modeling the initial state of early phonetic learning in infants with Constrastive Predictive Coding.
April 2022 - Sep. 2022	**Research intern, ÉCOLE NORMALE SUPÉRIEURE, CoML team** In the brain, nearby neurons react to the same properties of the input signals. Can topographic computations be a useful inductive bias for neural networks?
Feb. 2021 - July 2021	**R&D intern, STEELSERIES FRANCE** Design of a pipeline to extract meaningful events in video games from gameplay videos.
June 2020 - Dec. 2020	**Research engineer intern, ÉCOLE NORMALE SUPÉRIEURE, CoML team** Implementation of speech features extraction algorithms in *Shennong*, a toolbox based on Kaldi. Vocal tract length normalization and the CREPE model for pitch estimation.
Nov. 2019 - Aug. 2020	**Student facilitator, GOOGLE, Explore Machine Learning program** Organized and facilitated Explore Machine Learning Workshops at my campus.

Publications

Introducing topography in convolutional neural networks
M. Poli, E. Dupoux, R. Riad
ICASSP 2023
doi: 10.1109/ICASSP49357.2023.10096671, arXiv: 2211.13152

Shennong: a Python toolbox for audio speech features extraction
M. Bernard*, **M. Poli***, J. Karadayi, E. Dupoux
Behavior Research Methods, 2023
doi: 10.3758/s13428-022-02029-6, arXiv: 2112.05555

Civic engagement

Feb. 2019 - Feb. 2020	Vice President of Social openness, Dévelop'Ponts, École des Ponts ParisTech Organized tutoring sessions for around 80 pupils between 11 and 17 years old from local schools, to make them discover science in a fun way; and voluntary homework help sessions for high-school pupils.

Skills

Languages	French (native), English (fluent), Spanish (conversant)
Programming	Python (Pytorch, JAX, scikit-learn, TF/Keras), C++, bash, SLURM, OCaml