# Amandine Brunetto

PHD CANDIDATE IN AI · MINES PARIS - PSL

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## Professional Experience

**AI Research Scientist**                                                                                      *Mines Paris - PSL*

NOV. 2022–PRESENT

Research scientist in the Machine Learning and Perception team of the Centre for Robotics (CAOR).
- Create and develop state-of-the-art AI algorithms in the field of multimodal learning combining sound an vision: audio and image generation, neural fields.
- Popularise and communicate high-level research work.
- Analyse complex data to extract key insights.
- *Key Technologies: Python, PyTorch, Torchaudio, Git, HPC*

**Computer Vision Engineer**                                                                                   *Mines Paris - PSL*

MAY. 2022–SEPT. 2022

3D scene reconstruction from audio-visual data using generative AI.
- Robot building and dataset creation.
- Design AI algorithms for robot's vision.
- *Key Technologies: Linux, ROS*

**Research Intern**                                                                                            *Mines Paris - PSL*

MAY. 2021–JULY. 2021

- Develop unsupervised deep learning methods for traffic situation classification based on videos.
- Perform vehicle detection and tracking.

**Junior Consultant**                                                                                          *CEA and OPCO EP*

OCT. 2021–APR. 2022

- Consulting mission in knowledge management about the James Webb Space Telescope.
- Consulting mission in innovative design based on C-K theory. Topic: "How will young people want to learn tomorrow?"

## Education

**PhD in AI**                                                                                             *Mines Paris - PSL University*

2022–PRESENT                                                                                                         *Paris, France*

Audio-visual learning for perception enhancement. Under the direction of Pr. Fabien Moutarde and the supervision of Sascha Hornaueur.

**MSc Technology and Innovation Management**                                                              *Paris Dauphine - PSL University*

2021–2022                                                                                                            *Paris, France*

M.Sc with courses at Paris Dauphine, Mines Paris and INSTN (CEA). Graduated first of the class and with the highest honors.
*Courses*: exploratory project management, value engineering, innovative design (C-K method), financing innovation and entrepreneurship, corporate strategy, technology foresight.

**MSc Engineering**                                                                                                       *ENSEA*

2019–2022                                                                                                            *Cergy, France*

Specialization in Signal Processing and Computer Science.

## Publications

**Preprint**        **A. Brunetto**, S. Hornauer, F. Moutarde. *NeRAF: 3D Scene Infused Neural Radiance and Acoustic Fields.*, 2024

**Published Paper**        X. Liu, **A. Brunetto**, S. Hornauer, J. Lu, F. Moutarde. *PANO-ECHO: PANOramic depth prediction enhancement with ECHO features.*, CAI 2024

**Published Paper**        **A. Brunetto**, S. Hornauer, S. Yu, F. Moutarde. *The Audio-Visual BatVision Dataset for Research on Sight and Sound.*, IROS 2023