

# Emma Redor

MASTER STUDENT · COMPUTER SCIENCE

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Passionate about leveraging computer science and neuroimaging to further our understanding of neurodegenerative diseases like Alzheimer's. Concerned with the ethical treatment of healthcare data and the identification of biases in the acquisition of medical images and their selection for training artificial intelligence models, as well as reproducibility. Aspiring to collaborate with healthcare professionals to develop accurate and precise diagnostic tools.

## Education

### École Normale Supérieure (ENS) Rennes

Rennes

#### ENS DIPLOMA (RESEARCH MAJOR, INTERNATIONAL MINOR)

2023 - 2026

- The ENS Rennes 4-year diploma highlights the value of a training program specific to the school, an important added value to the bachelor's and master's degrees integrated into the curriculum. I entered the program directly in second year.
- 1<sup>st</sup> year: BS in Computer Science at ENS Rennes
- 2<sup>nd</sup> year (2023 - 2024): first year of Master in fundamental Computer Science at ENS Rennes. Curriculum: *HPC, Machine learning, assisted proofs with Coq, bio-informatics, computer graphics...*
- 3<sup>rd</sup> year (2024 - 2025): in order to validate my major *Research* and minor *International*, I will do internships during this year. One will be done in France and a longer one abroad.
- 4<sup>th</sup> year (2025 - 2026): second year of Master

### Université de Rennes

Rennes

#### BS COMPUTER SCIENCE

2023

### Lycée Assomption

Rennes

#### BACCALAURÉAT S

2019

- French high school diploma
- Specialized in life & earth science

## Professional Experience

### RESEARCH INTERNSHIP (SUMMER 2024) | GÖTTINGEN, GERMANY

Internship in [Fabian Sinz](#)'s team

Showed the possibility of developing a working deep learning based model that is able to segment cranial bones in MRI images of monkeys

Started developing a U-Net model trained on human data and finetuned on monkey data in Python with PyTorch

### PART-TIME RESEARCH INTERNSHIP (OCTOBER 2023 - MAY 2024) | INRIA RENNES, FRANCE

Part-time internship in the EMPENN team under [Camille Maumet](#) and [Fanny Dégeilh](#)'s supervision

Bibliographical work on reproducibility, the ABCD study & the Latent Change Score Model

Recreation of environment with Docker

Analysis of 2 similar harmonization pipelines in R

### RESEARCH INTERNSHIP (SUMMER 2023) | INRIA RENNES, FRANCE

Internship in the EMPENN team under [Fanny Dégeilh](#)'s supervision

Bibliographical work on various brain atlases for infants (0-5yo)

Bibliographical work on the various MRI brain segmentation tools

Testing of selected brain MRI segmentation programs

## RESEARCH INTERNSHIP (SUMMER 2022) | INRIA RENNES, FRANCE

Internship in the GENSCALE team under [Claire Lemaitre](#)'s supervision Evaluate the contribution of a new sequencing technology (linked-reads) for the quantification of genomic variants, compared to other technologies (short and long reads) Analyze whether the long-distance signal in these data can distinguish different versions of the variants represented in a sequence graph

Development in Python of a tool to detect structural variants (insertions and deletions) using linked reads

## Extracurricular

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### SINGER IN SCHOOL'S ROCK BAND (2023 - 2024)

Weekly 2-hour rehearsal on Saturdays morning

Performed at the ENS Rennes' 10 year anniversary and the school Christmas gala

### ACTRESS IN SCHOOL MUSICAL (2021 - 2022)

Biweekly rehearsal focused on acting and singing

Performed the play in front of 200 persons in May 2022 with the 8 other actors