VAR Kéliane

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PhD student

Research interests

Oocyte biomechanics and biophysics; image analysis and processing; artificial intelligence; statistical analysis

Professional Experience

November 2025 - ongoing : PhD student - Oocyte Quality Biomarkers

Laboratory of Analysis, Modeling and Materials for Biology and Environment (LAMBE), Université d'Évry – Paris-Saclay, and Verlhac/Terret Team "oocyte mechanics and morphogenesis", CIRB Collège de France

- Development and optimization of image- and data-processing pipelines for quantitative analysis of oocyte quality biomarkers
- Design of experimental and computational methods to investigate oocyte mechanics

February 2025 - November 2025 : Research Engineer- Oocyte Quality Biomarkers

Laboratory for Analysis, Modeling, Materials for Biology and Environment (LAMBE), University of Évry – Paris-Saclay

- Image and data processing for oocyte biomarker analysis
- Use and automation of analyses with ImageJ
- Programming and statistical analysis using Python and R Studio

February 2024 - August 2024: Internship - Integration of a New 3D Ultrasound Imaging

Iconeus , Paris

- Develop and optimize algorithms for 3D cerebral vascular imaging.
- Test the enhanced software with in vitro or phantom data and live in vivo data during animal experiments.
- Maintain cutting-edge knowledge of technical tools, their use, and best practices, as well as new modalities such as ultrasound localization microscopy.
- Encapsulate and refine the underlying algorithms within the Iconeus acquisition software.

May 2023 - June 2023 : Internship in orthopedic surgery

Pitié-Salpêtrière Hospital, Paris

- Collection and processing of medical data
- Quantitative analysis of health data

Education

September 2024 - November 2024: Specialization in Machine Learning

DeepLearning.AI, Online

Machine Learning, Deep learning , Supervised Learning, Unsupervised Learning and Convolutional Neural Networks

2022- 2024 : Master of Health Engineering - Technologies of Systems and Medical Devices

Sorbonne University, Paris

Methods and Applications in Medical Imaging, Digital Signal and Image Processing, Artificial Intelligence, Digital Phantom Modeling, Optimization, Neurosciences

2019-2022 : Bidisciplinary Bachelor's degree in Physics / Health Innovation

Sorbonne University, Paris

Electromagnetism, Optics, Quantum Physics, Waves, Medical Robotics, Electrokinetics, Public Health, Biomedical Statistics

2018 – 2019: First Year of Health Studies (PACES – Common Core Health Studies Program)

Sorbonne University, Paris

Neurobiology, Biophysics, Health Law, Chemistry, Anatomy, Pharmacology, Biostatistics, Social Sciences

Skills

Programming and Software

Python, C, Matlab, ImageJ, Java

Languages

French (native), English (C1)