Youwan Mahé

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👩‍💻 About Me

I am a PhD student within the Empenn and MALT research teams, funded by Siemens Healthineers. My PhD research focuses on anomaly detection and segmentation for the characterization of post-stroke recovery.

I am naturally curious with a passion for exploring electronics, meteorology, chemistry, physics, and AI.

🎓 Education

PhD in Computer Sciences *Nov. 2024 - present*
Anomaly detection and segmentation for the characterization of post-stroke recovery
Université de Rennes, Rennes (FR) & Siemens Healthineers, Courbevoie (FR)

Master's degree in Nanomedecine & Structural Biology *Sept. 2022 - June 2024*
Université Grenoble Alpes, Grenoble (FR)
With high honours

Master's degree in Biomedical Engineering *Sept. 2022 - June 2024*
Institut National Polytechnique de Grenoble, Grenoble (FR)
With highest honours

Bachelor of Engineering *Sept. 2021 - June 2022*
Institut National Polytechnique de Grenoble, Grenoble (FR)

Bachelor of Technology in Instrumentation and Measurement *Sept. 2019 - June 2021*
Université de Rennes 1, Lannion (FR)
With highest honours

💼 Research Experience

Visiting Scholar June - Aug. 2026
Supervisors: Pr. Simon K. Warfield, Dr. Davood Karimi

Post-stroke recovery prediction using foundation models and tabular clinical data

📍 Computational Radiology Laboratory, Boston Children's Hospital, Harvard Medical School, Boston, MA, USA

PhD in computer science Nov. 2024 - Present
Supervisors: Dr. Elise Bannier, Pr. Elisa Fromont, Pr. Francesca Galassi, Dr. Stéphanie Leplaideur

Title : Anomaly detection and segmentation for the characterization of post-stroke recovery

📍 Univ Rennes, Inria, CNRS, Inserm, IRISA UMR 6074, Empenn, Rennes, France

Master Internship (2nd year) Feb. - June 2024
Supervisors: Dr. Burhan Rashid Hussein, Dr. Cedric Meurée, Pr. Francesca Galassi

Title : Improving multiple sclerosis lesions segmentation in 3D spinal cord magnetic resonance images with recent advancements in deep learning

📍 Univ Rennes, Inria, CNRS, Inserm, IRISA UMR 6074, Empenn, Rennes, France

Master Internship (1st year) Feb. - June 2024
Supervisor: Pr. Marina Eckermann

Title : Multi-modal X-ray data analysis of brain tissue

📍 European Synchrotron Radiation Facility (ESRF), Grenoble, France

📝 Publications

Preprints available on HAL

Journal Articles

Youwan Mahé, Bannier, E., Leplaideur, S., Fromont, E. & Galassi, F. Unsupervised deep generative models for anomaly detection in neuroimaging: A systematic scoping review. *Biomedical Signal Processing and Control* **130,** 111572. ISSN: 1746-8094. https://www.sciencedirect.com/science/article/pii/S1746809426021300 (2027).

Di Matteo, A., **Mahé, Y.**, Leplaideur, S., *et al.* Deep learning and multi-modal MRI for the segmentation of sub-acute and chronic stroke lesions. *Pattern Recognition Letters* **199,** 225–231. ISSN: 0167-8655. https://www.sciencedirect.com/science/article/pii/S0167865525003745 (2026).

Conference Proceedings

Mahé, Youwan, Plessis Axel Leplaideur, S., Bannier, E., Leray, F. & Galassi, F. StrokeSeg2: Stroke Lesion Segmentation in Clinical Research Workflows. In *Efficient Medical AI (EMA4MICCAI) Workshop 2026* (Strasbourg, France, Oct. 2026). https://hal.science/hal-05700258.

Mahé, Youwan, Bannier, E., Leplaideur, S., Fromont, E. & Galassi, F. Unsupervised Detection of Post-Stroke Brain Abnormalities. In *ISBI 2026 - 23rd IEEE International Symposium on Biomedical Imaging* (IEEE, London, United Kingdom, Apr. 2026). https://hal.science/hal-05335158.

Poster Communications

Kerverdo, Y., Leray, F., **Mahé, Youwan**, Leplaideur, S. & Galassi, F. *StrokeSeg: A Lightweight Tool for Stroke Lesion Segmentation in Clinical Research* ISBI 2026 - IEEE 23rd International Symposium on Biomedical Imaging. Poster. Apr. 2026. https://hal.science/hal-05335119.

Mahé, Youwan, Leplaideur, S., Fromont, E., Bannier, E. & Galassi, F. Détection et segmentation des anomalies cérébrales post-AVC. In *IABM 2025 - Colloque Français d'Intelligence Artificielle en Imagerie Biomédicale* 1–2 (Nice, France, Mar. 2025). https://hal.science/hal-04910273.

📚 Teachings

Year	University	Public	Course	N. of hours	Type
2026	Université de Rennes	Graduate students in Artificial Intelligence and Applications (IAA)	AI for health-care	12	Lab Sessions
2025	ESIR Université de Rennes	Graduate students in Computer Science – Information Systems option	Machine Learn-ing	24	Lab Sessions

💬 Scientific outreach

- Participation in the **”Ma thèse, une sacrée histoire”** blog project/training initiative by Inria Centre at the University of Rennes, focusing on scientific mediation and communicating digital science research to the general public.
- **1 scientifique, 1 classe : chiche !** : 1-hour talk for high school students on the challenges of AI technologies for the prizegiving ceremony ”Trophée NSI” in Saint-Brieuc.
- **Semaine du cerveau (Brain week)** : Organization and preparation of a quizz about neuroimaging research (the jobs, image processing, neuroimaging methods, findings about the brain, etc.). Presentation during the Semaine du cerveau 2025 at Café des Champs Libres, Rennes.
- **1 scientifique, 1 classe : chiche !** : 1-hour talk for high school students on the challenges of AI technologies at Lycée La Mennais in Ploërmel.
- **Fête de la science 2025 (Science Festival)** : Presentation of my research work and the challenges of AI technologies at the Village des Sciences, Ploufragan.