Internship on Explainable ML in Health Science

Keywords: Scattering Transforms, Convolutional Neural Networks, Health Sciences
Salary: approximately 550 euros per month
Profile: M2 student in Computer Science/Mathematics/Physics or a related field
Institute: IHU Strasbourg/University of Strasbourg
Location: Strasbourg, France
Supervisor: Dr Georgios Exarchakis

We offer an intern position attached to the CAMMA team at IHU Strasbourg/University of Strasbourg for motivated students interested in contributing to the development of Machine Learning algorithms for use in Health Sciences. The Institute provides a multi-disciplinary environment where clinicians collaborate with engineers to provide real-world surgical solutions. The internship is intended to be part of a larger project focused on Explainable AI. The intern will be expected to implement and test Wavelet Scattering Transforms[1,2] and Deep Convolutional Neural Networks for applications on CT scans.

An ideal applicant will have a strong background in machine learning, and signal processing. The project also requires the ability to develop Convolutional Neural Networks in the Python programming language with at least one of the popular ML libraries, e.g. Pytorch, TensorFlow. Proficiency in spoken and written English is mandatory.

The position is funded based on the number of working hours per month and typically amounts to approximately 550€ per month. There is a possibility of extending the internship into a PhD position in the area of Explainable AI.

For further information on the application please contact Dr Georgios Exarchakis at georgios.exarchakis@ihu-strasbourg.eu with "Internship at CAMMA" as the email title.

[1] Eickenberg M., Exarchakis G., Hirn M., Mallat S., Thiry L. (2018). *Solid harmonic wavelet scattering for predictions of molecule properties.* The Journal of chemical physics, 2018.
[2] Andreux M., Angles T., Exarchakis G., Leonarduzzi R., Rochette G., Thiry L., Zarka J., Mallat S., Andén J., Belilovsky E., Bruna J., Lostanlen V., Chaudhary M., Hirn M. J., Oyallon E., Zhang S., Cella C., Eickenberg M. (2020). *Kymatio: Scattering Transforms in Python.* Journal of Machine Learning Research, 2020.