NeuroSpin *is an outstanding research center on the* Human brain*. Part of the CEA (Atomic Energy Commission) and Paris-Saclay University, the NeuroSpin teams are leaders in very high field MRI carry out studies in* fundamental and clinical neurosciences*. The* BrainOmics *team works in* imaging-genetics*, at the crossroad where* neuroinformatics, bioinformatics *and* machine learning *meet and in collaboration with Gustave Roussy, ICM-La Pitié-Salpétrière, Mondor Biomedical Research Institute.*

Machine learning for data imputation in neuroimaging-genetics

In the BrainOmics *team at Neurospin, the trainee will work on the conception of* machine learning *models for single and multiple values imputation in multi-modal datasets. Moreover, he/she will take part to the analysis of patients cohorts in imaging-genetics, about* neuro-oncology pathologies *and* autism*.*

Trainee's Activities
- *Characterize the data to be imputed, state-of-the-art.*
- *Train and test* machine learning *prediction models for data impputation.*
- Improve *the existing algorithms and develop* new ones *aiming at* imputing imaging and genetic data*.*
- Analyze cohorts of patients in neuro-oncology and clinical neuroscience.

Benefits of the training
The proposed training introduces to the research job in Data Science*, applied to real data in biomedical imaging, gentics, and to the heterogeneous data imputation and integration, in a collaboration framework with clinicians and clinical applications. A* PhD project in Data Science*, starting in autumn 2019 is a possible option.*

Searched profile
Engineering School, master Data Science. Fluent in english.

Job-related skills
- Expertise in statistics and applied mathematics
- *Programming :* Python*, R, Matlab*
- Curiosity, taste for multi-disciplinary environnment and for innovation.
- Good communication skills, good personal relationship skills.
- *Knowledge in biomedical image analysis and/or genetics is an asset.*

Behavioral skills
Strong motivation, rigor, autonomy and resourcefulness.

Training duration : *6 months, starting from march 4th, 2019.*
Location *: NeuroSpin-CEA, Plateau de Saclay, Gif-sur-Yvette.*

Please email your CV + cover letter by december 17th, 2018 *to* cathy.philippe@cea.fr *and* vincent.frouin@cea.fr