Looking for Postdocs/Engineers in Deep Learning

The Interdisciplinary Institute for Neuroscience (IINS, University of Bordeaux), the Mechanobiology Institute (MBI, National University of Singapore) and CNRS@CREATE are recruiting **3 engineers/post-docs** in the field of deep learning for a joint collaborative project of large-scale image processing and analysis.

Job description

The candidates will contribute to the development of an integrated acquisition, processing and analysis platform involving novel high- and super-resolution live microscopy. They will work in an interdisciplinary environment, in close collaboration with biologists, physicists and computer scientists. They will have to design deep learning-based computational workflows in order to perform meaningful predictive analysis on two different biological models: 3D cell culture and synaptic proteins models, acquired respectively with HCS-soSPIM [1, 2] and correlative super-resolution microscopy [3] techniques. In particular, they will implement existing AI-based methods in order to enhance and segment microscopy data (eg. [7 - 11]), and develop predictive analysis models from a large collection of quantitative multimodal data computed using recently developed pixel- and point-cloud-based approaches [4-6].

Duration

24 to 36 months.

Qualifications

The candidates must:

- Have a PhD or equivalent in computer science or a related field,
- With proven experience in developing bioimage analysis tools.
- Knowledge and ability in one or more deep learning frameworks (Tensorflow, Keras, Torch, Caffe, etc.), preferably in Python, is required.
- Previous experience working with medical or biological images is prefered.

Scientific Environment

The candidates will join an international interdisciplinary consortium located in Singapore and Bordeaux (France).

The Quantitative Imaging of the Cell team, located in IINS, has strong expertise in the development of microscopy systems and quantitative data analysis for life science. In the past 5 years, the team published several high-impact papers related to quantitative high- and super-resolution microscopy, including 5 in the Nature group [1-5].

The Biomechanics of Cell-Cell Contact lab is a joint international laboratory between CNRS and the Mechanobiology institute of Singapore. The team focuses on the role of microenvironmental cues onto the stability and formation of apical pole. They developed cutting edge technologies to control the cellular environment at the micron scale and to image the interactions between cells. The team focuses on simple epithelium polarity and Hepatic polarity. They developed AI based approaches to characterize the development of apical pole. The team has a long -standing collaboration with the Bordeaux counterpart with whom they developed a single objective SPIM technology [1]. Their research is published in highly ranked journals [12-15].

Contact

Send your CV and motivation letter to: florian.levet@u-bordeaux.fr, jean-baptiste.sibarita@u-bordeaux.fr and dbsvvnr@nus.edu.sg

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