Open position: Researcher
AI development for disruptive radiology assistant

Sycai Technologies is a young biotech startup focused on increasing the detection of early-stage cancer and improving patient's life quality applying AI-based algorithms to medical image tests.

Our first product helps radiologists to detect, localize and classify pancreatic cystic lesions on CT scans. Combining the information of the images and data from the clinical history of the patient it predicts the probability of each lesion to evolve into pancreatic cancer, the 4th leading cause of death by cancer in Europe with a median survival time from diagnosis of 5 months.

Currently, the application of technology to healthcare services is opening many new opportunities. More specifically, AI has helped doctors saving time and resources, improving diagnosis, personalizing treatments and better interpreting the patients' reactions to drugs or therapies.

Objectives and Tasks:

- The development of a deep learning framework for pixelwise labelling, automatic training and illustration of the results of multiple abdominal organs in CT scans.
- The development of an own low-latency deep neural network for semantic segmentation of multiple classes improving results from typical architectures such as fully convolutional networks or U-Nets.
- Statistical prediction model of the evolution in time from detected classes.

Within the 2-years period at least one research papers shall be published in important international conferences in medical imaging or computer vision (to be defined with the company).

The main objective of the researcher's work is the creation of a framework for automatic neural network design based on the state-of-the-art NAS and DNAS methods (neural architecture search), able to create light and integrable networks for the semantic segmentation of different cystic lesions in abdominal CT scans. Moreover, it is requested the development of a statistical prediction model, that correlates the performed segmentation with key factors of the patient's clinical record to predict the cysts' evolution.

Candidate Profile:
- Degree in engineering, physics or mathematics
- Proven experience in deep learning frameworks for image analysis like: pytorch, tensorflow, keras or caffe. Experience in medical imaging (types of image formats, e.g.) is desired.
- At least 6 years of experience as researcher or a PhD in computer vision (or deep learning applied to image recognition or similar) and research experience of at least 2 years.
- Fluent in English or Spanish written and spoken (C1 at least)
- Has not worked or studied in Spain for the last 3 years

We offer:

- 2-Years contract as researcher with competitive salary complemented with an EU grant
- A young flexible and innovative work environment in contact with other entrepreneurs and start-ups. As we are being accelerated by EIT Health, Tecnocampus and Barcelona Activa through different programs and activities, right now our work centre is located at the Barcelona Activa Incubator in the centre of Barcelona (Spain).
- Flexible working hours and home office
- To begin in April 2021