BME PARIS
BioMedical Engineering
MASTER'S PROGRAM

Deep learning and generative models for high throughpout biology

Open Your Mind Seminar

Friday, Nov 29 2024
1.30 pm – 3.00 pm

Amphitheater FOURNEL
Arts et Métiers Institute of Technology
155 boulevard de l'Hôpital, 75013 Paris

In this presentation, we will briefly introduce deep learning and high-throughput biology, showcasing how deep representations and generative models can be applied to discover new drugs and advance biological research. First, we will present a generic and fully automated approach to selecting conditions in a phenotypic high-throughput screen, enabling the identification of hits in early drug discovery, with or without positive controls. Next, we will introduce two methods for the preselection of a compound library prior to screening, developed using the Cell Painting assay and multimodal learning. Finally, we will explore a more experimental project where deep generative models are employed to reveal and interpret subtle phenotypic changes obscured by the natural variability of cells.

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