Multimedia knowledge infrastructure for biomedical data management and analysis

Project Description

The aim of this proposal is the definition, design and implementation of a standard model that includes both -omics and non -omics data together with novel techniques to represent and integrate heterogeneous biodata. This need derives from the diffusion of different technologies from high-throughput technologies, as in NGS (Next Generation Sequencing) and mass spectrogram to digitalization of patients' records. Moreover, the integration of multimedia data (e.g., bio images) could significantly improve this context. The technologies for data collection and analysis are constantly evolving, and this variety needs a novel format to represent and store biodata as knowledge graphs. Such kind of framework will be the basis for the development of novel integrative bioinformatics tools to correlate omics data and features extracted from biomedical images to clinical, biological, and environmental data.

Prospective Students
Possible candidates are expected to have different backgrounds in artificial intelligence, big data and bioinformatics.

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