GENETTA: Genomic Data-Fusion Platform for Omics-Driven Precision Medicine

Description

This PoC project aims to pave the road to commercialize a comprehensive data analytics platform enabling data-driven biomedical innovation and precision medicine. The platform is specifically designed to efficiently fuse and mine heterogeneous omic data, including genomes, epigenomes, proteomes, metabolomes, patient clinical profiles, drugs and their chemical similarities, disease and other ontologies, and other relevant omic data. The goal of this development is to provide the most advanced software platform for fusion and analytics of numerous heterogeneous multi-scale omic data that takes advantage of novel non-negative matrix trifactorization (NMTF)-based and network mining algorithms, providing dramatic improvements in the number and type of fused data, quantity of data, computational efficiency and biomedical accuracy compared to the most advanced omic data analytics platforms currently existing.

The main goal of the PoC is to close the gap between the research results of ERC Consolidator Grant, ICON-BIO, and the production of acommercial data analytics platform for the bio-pharmaceutical sector. In particular, the solution will target biopharma companies to embed the platform into their existing Data Science resources and enable effective and efficient application of the platforms explainable AI methods (resulting from ICON-BIO) to optimize and guide their discovery processes. The result of this effort will be the achievement of a market-ready Data Analytics Platform.

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