

Integration of multi-omics and non-omics data: AI approaches and challenges



E. López de Maturana, S. Sabroso-Lasa, and N. Malats on behalf of the PANCAIM investigators
Genetic and Molecular Epidemiology Group, CNIO, and CIBERONC, Spain

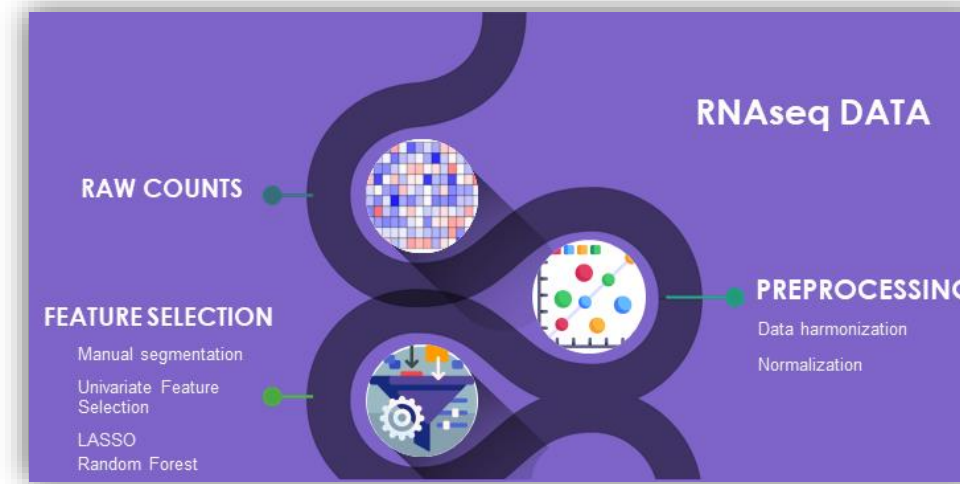
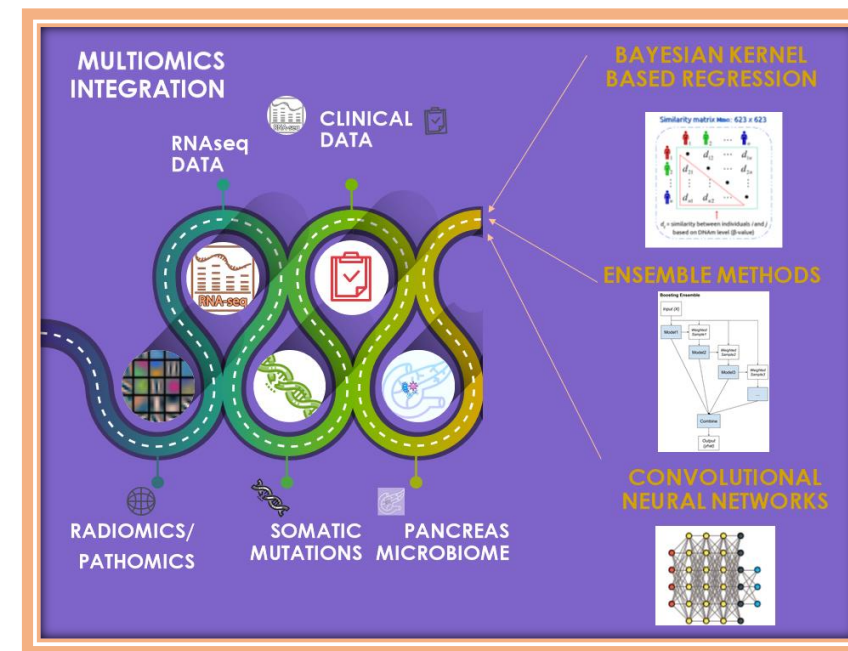
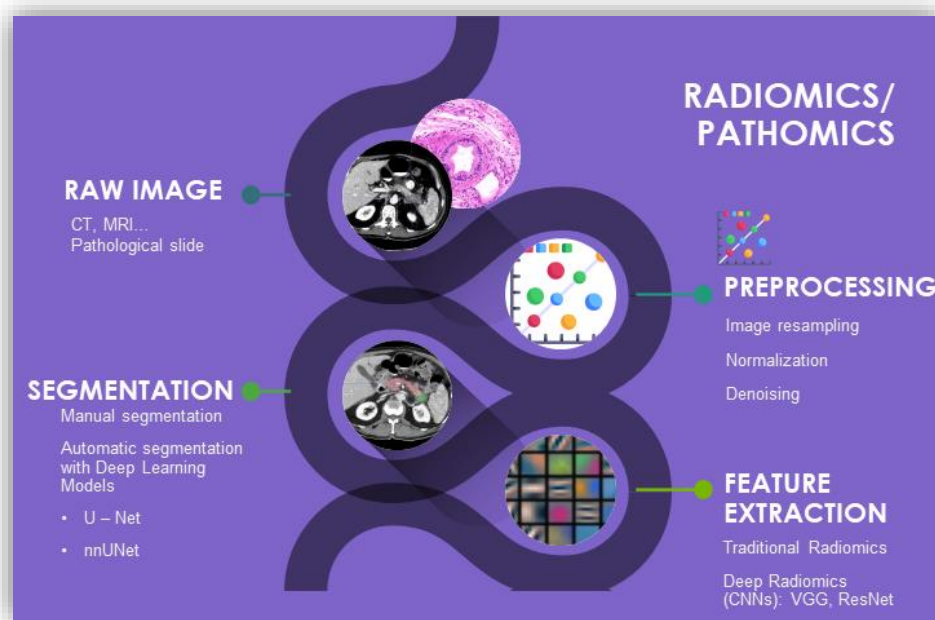
<https://pancaim.eu/>



Patient diagnosis



Treatment stratification



cnio stop cancer

CHALLENGES

Correlation between data types	Interaction between data types	Disease heterogeneity	Population substructures
Fairness between different sets of data	Lack of study design models	Statistical power: $n \ll p$ scenario	Shortage of statistical test
Lack of studies to validate/replicate results	Lack of functional information to interpret of results	Dynamic nature of the health/pathological process	Econ-Omics