

# Healthcare Analytics: Learning from Multiple Heterogeneous Data Sources

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## **Abstract**

The increasing availability of digitized clinical data presents an unprecedented opportunity to study and gain deeper understanding of diseases, develop new treatments and improve healthcare ecosystems. However, clinical data also poses modelling challenges due to the heterogeneity of data sources containing patient information, e.g., structured demographic variables, text in clinical notes, images in MRI scans etc. In this talk, I'll provide an overview of techniques to obtain patient representations (or features) from heterogeneous clinical data sources. Then, I'll describe a new deep learning based technique for unsupervised learning of patient representations developed in my group, and empirical results on predicting gene-disease associations using this technique. Finally, I'll briefly discuss how our technique can be used for combined data-driven knowledge-based predictive modelling.

## **Speaker Profile**

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