

Sano Computational Medicine Seminars

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Join us via Zoom: <https://seminar.sano.science/>

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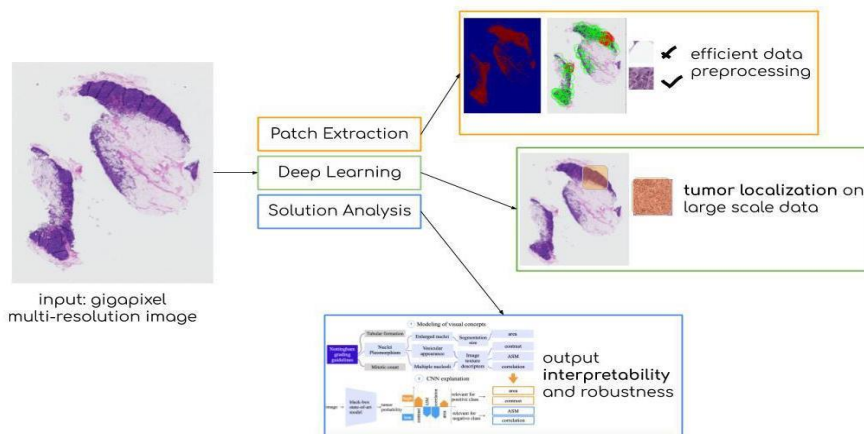
<http://medgift.hevs.ch/wordpress/team/mara-graziani/>

Emerging needs of AI for Digital Pathology: Computational Bounds, Data Heterogeneity and Interpretability

Abstract

With digitalization in the field of histology, and even more with virtual microscopy, the analysis of the microanatomy of cells and tissues is undergoing an important revolution. An increasing number of medical institutions started adopting high-resolution scanners that can collect images with billions of pixels representing glass slides of tissue specimens in their entirety. The development of deep learning models to analyze digital slides had to face up with the computational and storage demands of processing information in TeraBytes – if not Petabytes - of data.

This talk will shed light on the emerging needs of developing deep learning models on these gigantic images, including computational aspects and technical limitations due to the heterogeneity in the data collection process. Besides, the weak accountability and little transparency of deep models -often called “black-boxes” set another emerging need: facing the request for a “right to explanation” that could illustrate the internal dynamics behind the automated decision-making. This talk will present some recent advances towards these directions based a.o on achievements and solutions of the EU H2020 Project PROCESS.



PROCESS

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