



Prof. Ivan Štajduhar, <http://www.riteh.uniri.hr/osoba/ivan-stajduhar>

University of Rijeka, Faculty of Engineering, Department of Computer Engineering

Title: Mining large medical radiology image repositories

Abstract: Developing clinical predictive models by processing medical radiology images is often challenging due to high variability of data, noise and data scarcity. Using pre-trained feature extractors in deep learning configurations to initialize weights is often beneficial to the model optimization process, leading to faster convergence and more accurate models. Although one can also benefit from transferring knowledge from other domains, using specialized domains is usually the better choice because it makes the shift in the embedding distribution smaller. This requires an annotated medical radiology image dataset that is diverse, large and challenging enough to produce generally useful embeddings spanning imaging modalities and anatomical regions. In this talk, I will discuss some of the challenges associated with processing medical radiology images and supporting EHR data from PACS of clinical centers. I will also present some of the work we have done in developing an automated annotation system for the PACS/EHR archive of CHC Rijeka, with the aim of learning generally useful embeddings for transfer learning in medical radiology image processing.