School of Health Information Science Seminar:

Dataset to Decision Tree of Expert Systems in Health Informatics using Public Data

Speaker:

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NOV 2nd on Zoom

12:00PM PT

Expert systems in health care are important for clinical decision support. Nowadays, there are different forms of algorithms for expert systems. One algorithm used is called decision trees that are comprised of a hierarchical structure wherein the information from the system can traverse through the nodes of the tree for the final answer for decision support. When establishing a decision tree an important factor is the attribute or feature (i.e. health informatics) that is split into more nodes when moving down the tree. Splitting measures are key to the decision tree learning like Gini coefficient, Gini index, information gain or gain ratio. In addition, there is a recent upwelling of using ensembles or groups of decision trees called random forests to reduce overfitting of a trained decision tree (i.e. with a machine learning algorithm). Moreover, boosted gradient is a newer ensemble ratio of decision trees that optimize information loss versus gain. We will explore the basis of the different forms of decision trees to get a better understanding of how expert systems can be derived and optimized using health informatics.

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