Defesa de Proposta de Tese: Weslley Lioba Caldas

Escrito por Secretaria MDCC

Título: Interpretative Variable Selection via Perfect Bipartite Matching for Chagasic Sudden Cardiac Death Classification

Data: 03/08/2023

Horário: 11h00

Local: Sala de Seminários - Bloco 952

Resumo:

Chagas disease, caused by the protozoan Trypanosoma cruzi, is a parasitic infection prevalent

in Latin America. Early detection is crucial to prevent complications such as sudden cardiac death (SCD). Computer-aided diagnostics (CAD) using machine learning techniques have shown promise in analyzing clinical data, biosignal exams, and medical images for Chagas disease. However, interpretability remains a challenge for CAD systems. To mitigate this problem, we propose a novel pairwise feature selection method using Perfect Bipartite Matching (PBM) to enhance interpretability in CAD for Chagas disease. The proposed method provides valuable insights into the relationships among selected features by optimizing feature relations and constructing an interpretable graph. Empirical evaluations using 18 UCI datasets and five feature selection algorithms demonstrate the general method's effectiveness in achieving competitive accuracy. Finally, we demonstrate the usability of the proposed work based on a case study of Chagasic disease.

Banca examinadora:

- Prof. Dr. João Paulo Pordeus Gomes (MDCC/UFC - Orientador)
- Prof. Dr. João Paulo do Vale Madeiro (UFC - Coorientador)
- Prof. Dr. Cesar Lincoln Cavalcante Mattos (UFC)
- Prof. Dr. Ajalmar Rego Rocha Neto (IFCE)