CAPSTONE
PROJECT

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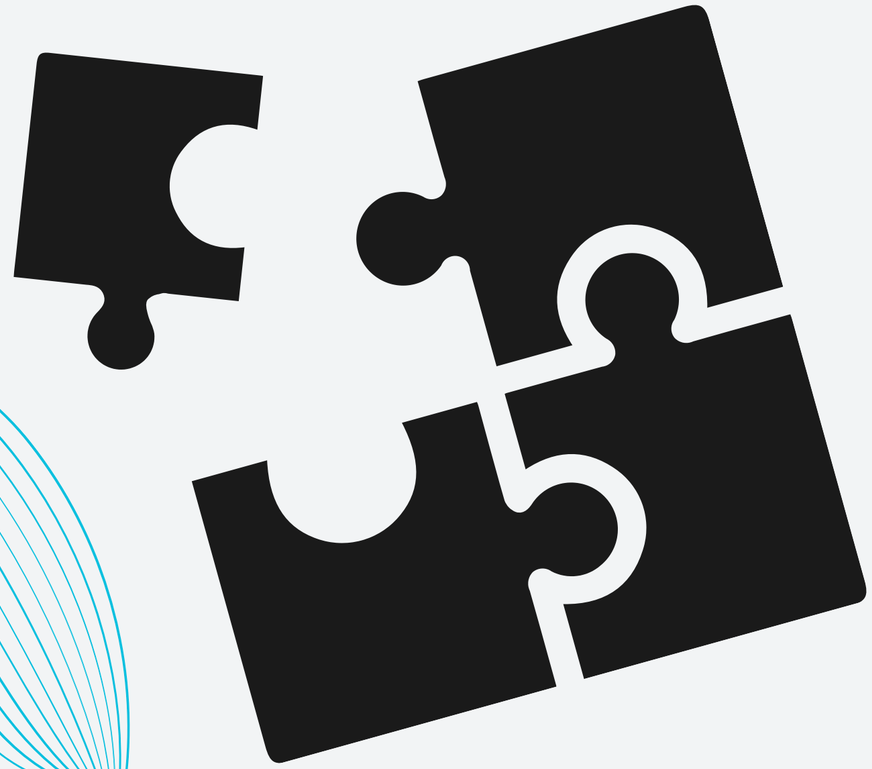
CONTEXT

Child mortality reduction is a crucial aspect of the UN Sustainable Development Goals. By 2030, the UN aims to eliminate preventable deaths of newborns and children under 5.

Maternal mortality remains a concern, with a significant portion of deaths occurring in low-resource settings

PROPOSAL

Our project aims to leverage machine learning techniques to improve fetal health assessment, aligning with global efforts to reduce child and maternal mortality.

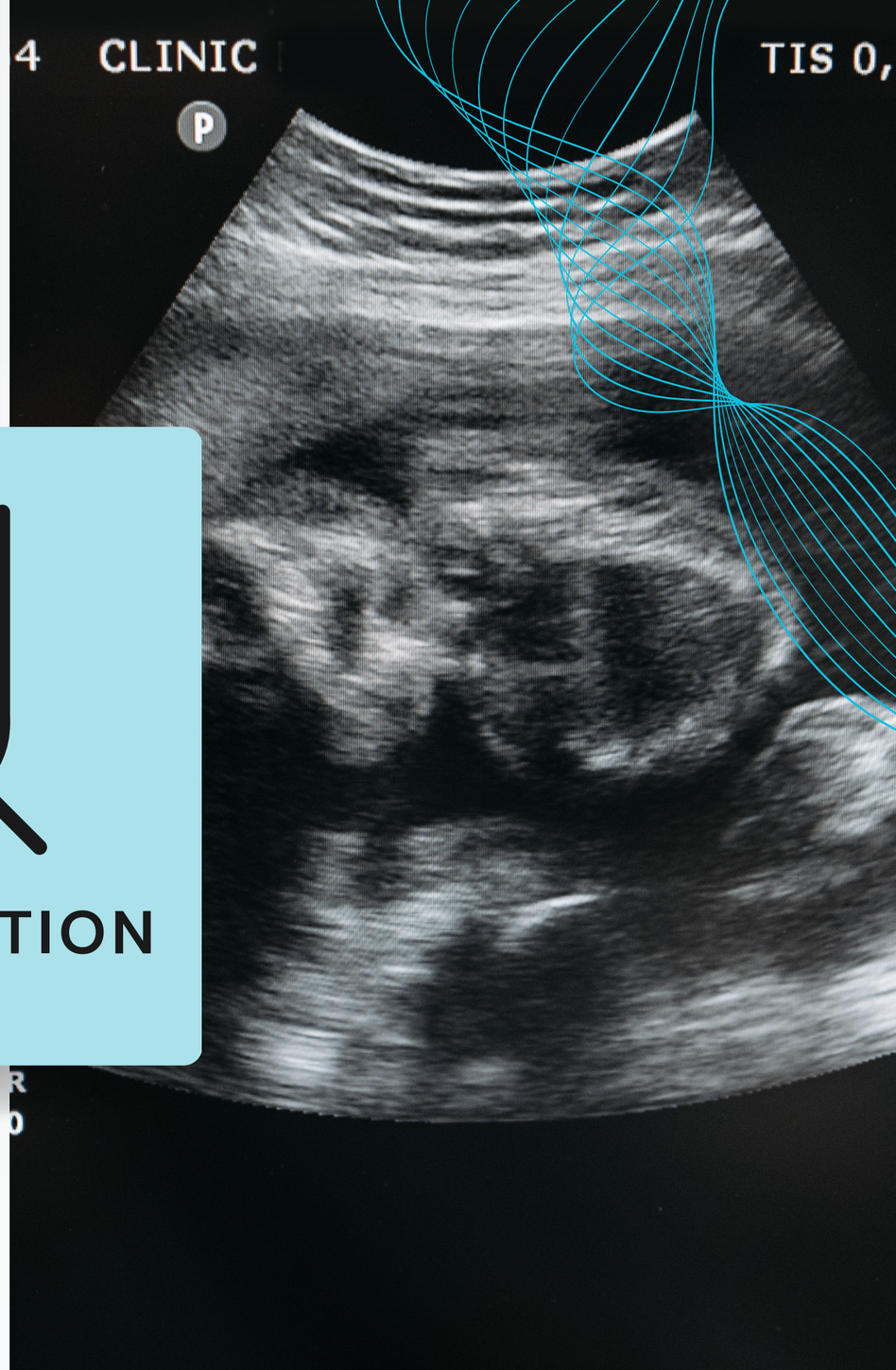


MAIN OBJECTIVES

- Apply techniques for Data Cleansing, Feature Engineering and Data Visualization as an initial comprehension of the data.

- Utilize various machine learning algorithms to analyze and classify CTG data into three fetal health states (Normal, Suspect, or Pathological) based on parameters like fetal heart rate, movements, and uterine contractions.

CLASSIFICATION



OTHER OBJECTIVES

Objective n° 1

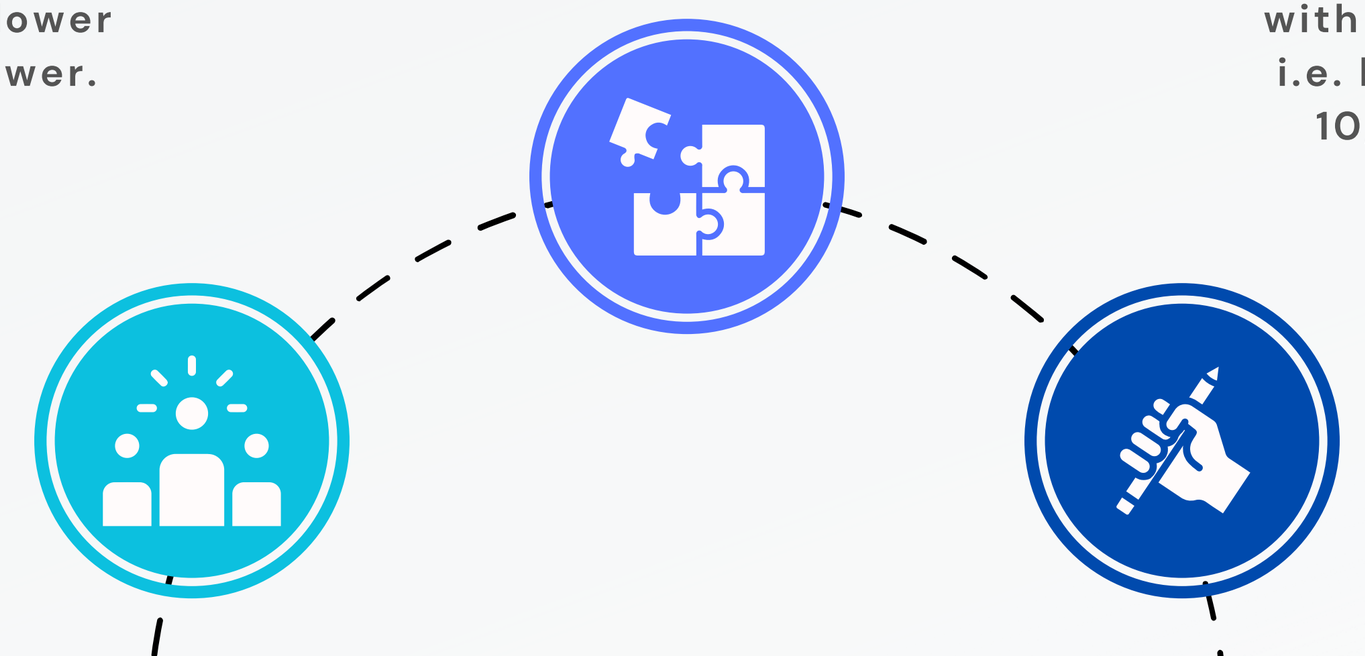
Understand the limitations and advantages of different models in conditions of lower computing power.

Objective n° 2

Find the best techniques to implement deep learning models for practical medical solutions.

Objective n° 3

Contrast the performance of different models and architectures trained with smaller datasets, i.e. between 1,000 to 10,000 examples.



PROJECT ROADMAP

Literature reading and understanding

STEP 1

Data collection and preprocessing from CTG recordings.

STEP 2

Implementation and evaluation of machine learning algorithms.

STEP 3

Collaborate with healthcare professionals for validation.

OPTIONAL

Thank You

Ayres de Campos et al. (2000) SisPorto 2.0 A Program for Automated Analysis of Cardiotocograms. J Matern Fetal Med 5:311-318 (link)