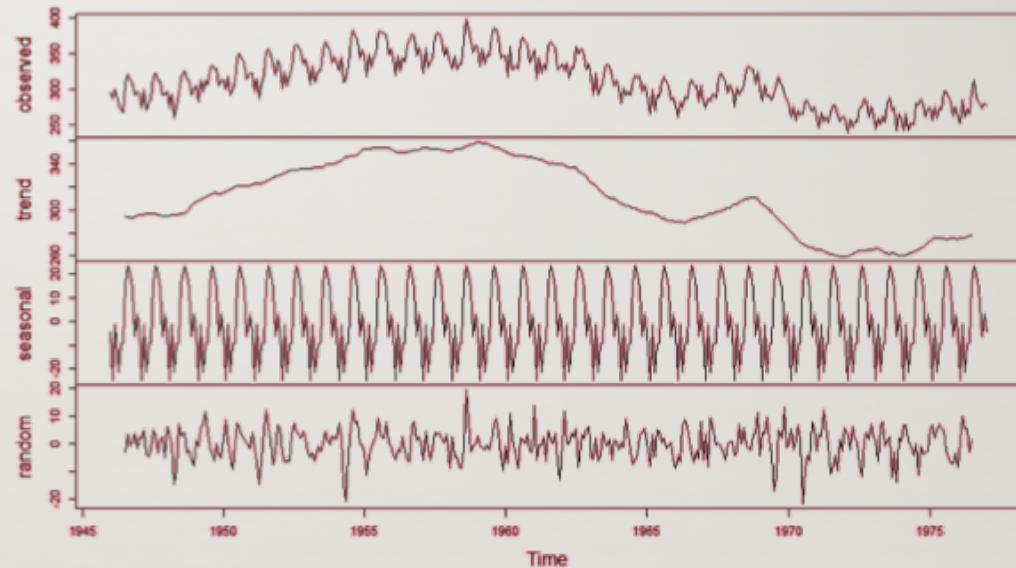


IMPROVING HEALTHCARE WITH AI

DEVELOPING PREDICTIVE MODELS FOR TIME-VARYING DATA

INTRODUCTION

- Time-series data is very common in healthcare
- Dependencies in the time domain



[Source link](#)

GOALS

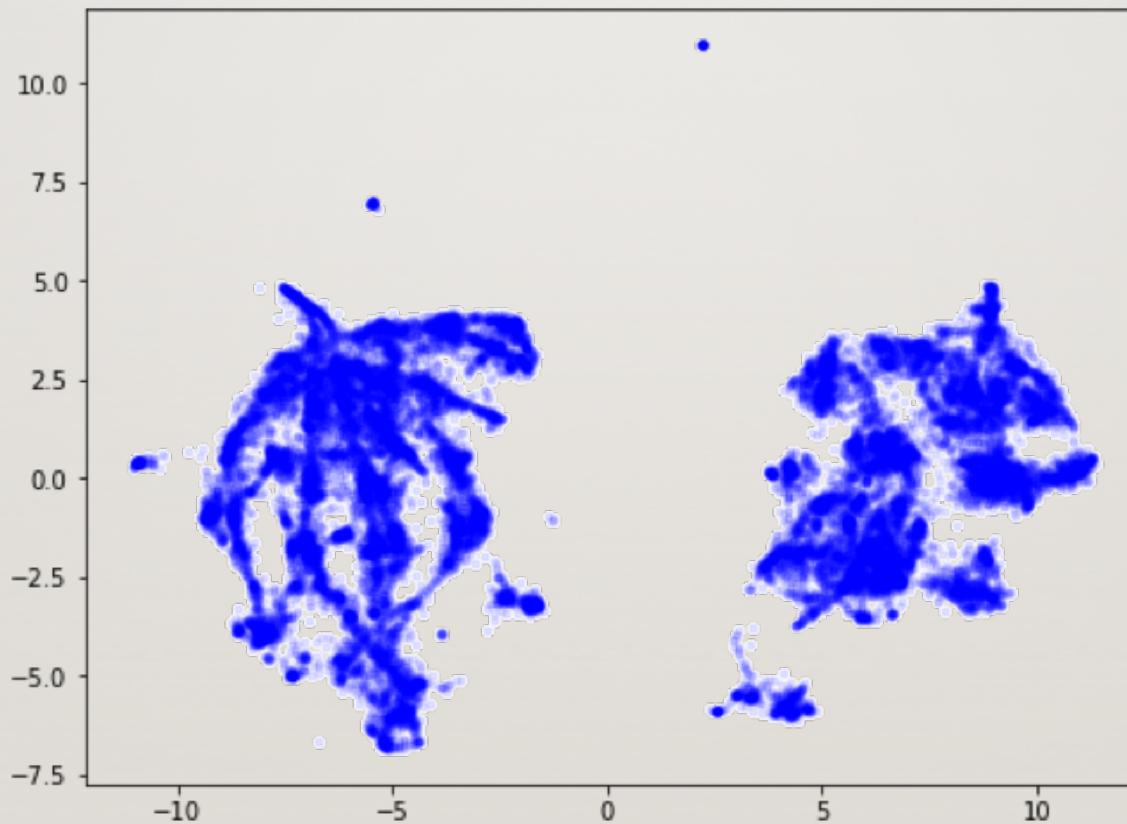
1. Forecasting decompensation and length of stay
2. Phenotyping Analysis
3. Explainable model decisions

DATA

- Data from the [MIMIC III](#) dataset
- Over 40000 ICU patient records
- Each data sample has 76 variables measured at every hour in the ICU
- For initial analysis, a part of the data (2GB) was used

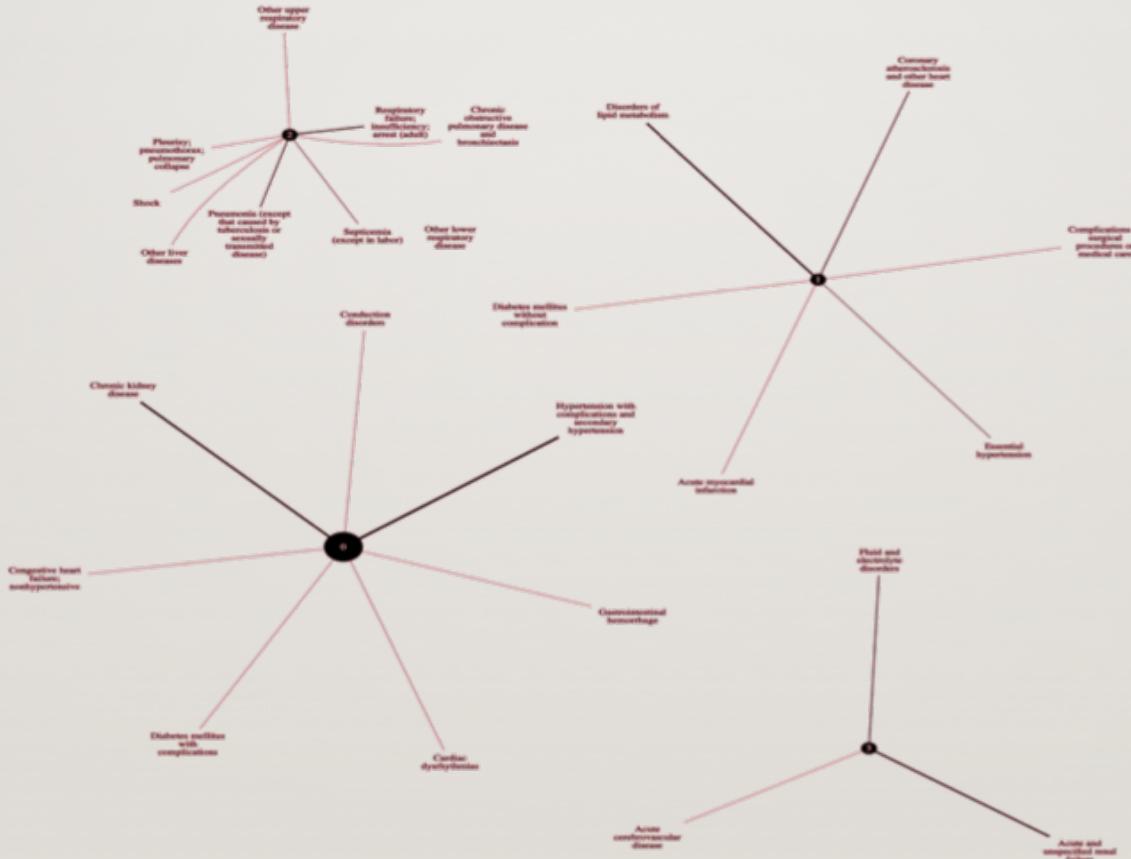
INITIAL ANALYSIS

Clustering patient data



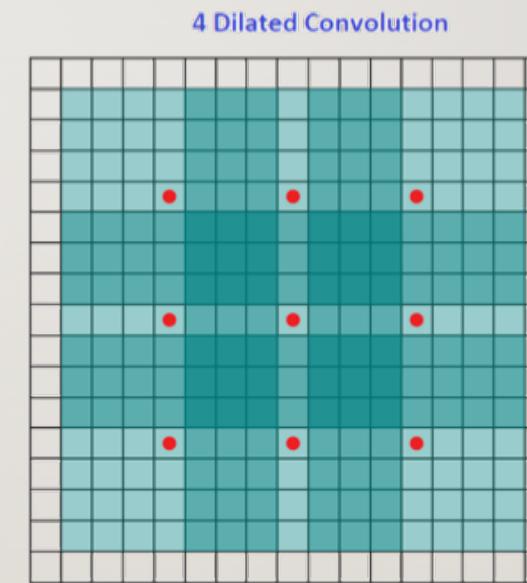
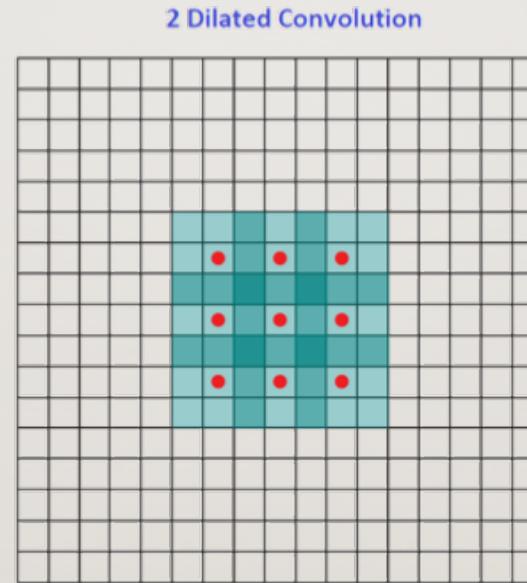
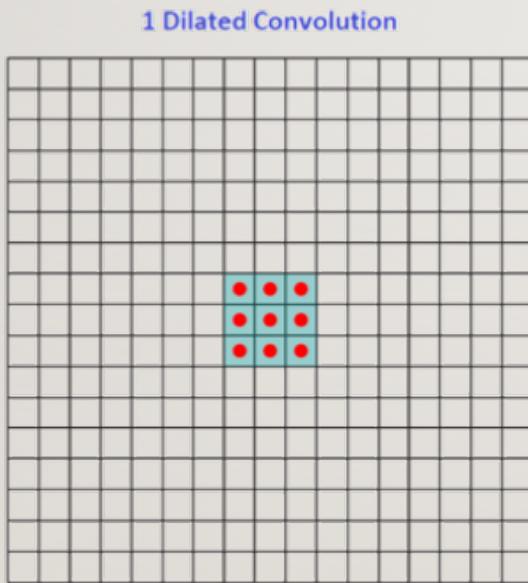
INITIAL ANALYSIS

Clustering diseases



PROPOSED SOLUTION

- 1D CNN architecture with dilated convolution



[Source link](#)

- Sensitivity Analysis