Counterfactual Explanations for Time Series Regression

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Abstract

- Digital biomarkers can be used to monitor health status

- Recent studies have shown that Physical Activity can be used to estimate the Biological Age

- The use of time-series regression to predict biological age requires large deep-learning models.

- Those models are like big black boxes that are hard to understand.

- In healthcare, understanding how DL models are making their decisions is key.

- For this reason, the explainability of DL models is important.

- In this paper, we explain DL models used to predict BA from time-series representing the weekly PA.

- To do so, we used counterfactuals.

Keywords: Deep Learning, Time Series, Counterfactuals, Explanations

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1. Introduction

Some intro

2. Related Work

Some related work

3. Methods

Some methods

4. Results

Some Results

5. Discussion

Some Discussion

6. Outlook

Some Outlook

Appendix A. Sample Appendix Section

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References