

Likely=! Good – Predicting favorable treatment options

Type	Master thesis
Workingtitle	Likely =! Good - Predicting favorable treatment options.

Transformer models are a performant class of neural network models for many kinds of sequential data and are at the core of many modern technologies. Generative models are mainly trained to predict the next most likely token in a trainings sequence. In many domains we are however not primarily interested in the most likely next token but choosing tokens to maximize some strategy/future reward. Such is the case in the prediction of possible treatment options in medical decision support. Additionally secondary qualifiers need to be met or at the very least communicated to the user. In clinical decision support for example the level of support/evidence for a given option is an important information for the medical professional as it is likely to be a deciding factor in many cases.

This theses will explore different (combinations of) architectures/models to enable such a prediction and test it against our in house dataset based on explainable and synthetically generated patients.

Requirements

- at least basic knowledge in the field of AI (i.e., What is a feed-forward network?)
- good computer/coding skills (especially Python (i.e., NumPy, ...)) and/or previous experience regarding AI implementation (PyTorch (Lightning), TensorFlow (Keras), ...)
- self-motivated and self-reliant

contact

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