

## 1.6 Time-series in healthcare: challenges and solutions

Mihaela van der Schaar & Fergus Imrie

### HMM

Rabiner et al., 1989:

<https://web.ece.ucsb.edu/Faculty/Rabiner/ece259/Reprints/tutorial%20on%20hmm%20and%20applications.pdf>

= Still Markovian models: ordering of events matter

- Need to go beyond Markovian models
- Incorporate history
- Deep Learning methods

### Deep Learning

- KDD Tutorial: <https://lovvge.github.io/Forecasting-Tutorial-KDD-2019/>
- Olah: <https://colah.github.io/posts/2015-08-Understanding-LSTMs/>
- Rasmussen & Williams: <http://gaussianprocess.org/gpml/chapters/RW.pdf>
- Mattos & Tobar: <https://neurips.cc/virtual/2021/tutorial/21890>
- Kolter: <http://implicit-layers-tutorial.org/>

### Dynamic Deep-Hit

<https://ieeexplore.ieee.org/document/8681104>

Engagement session: September 19, 2022