

Basics of Machine Learning for Analysts

1.1: The History and Tools of Machine Learning

Case Study: [Case-Study of Artificial Intelligence / Machine Learning | LinkedIn](#)

Problem:

The main challenge in this case study is the overwhelming amount of data, leading to difficulties in accurately predicting patient admissions and efficiently allocating staffing resources. Traditional methods struggle to handle this flood of information and consider the multitude of factors influencing admission rates.

Background in play:

Machine learning is increasingly being recognized as a valuable tool to address challenges posed by information overload in various industries. In the healthcare sector, hospitals face the daunting task of forecasting patient admission rates amidst a deluge of data. This task is crucial for optimizing staffing levels and ensuring efficient patient care delivery.

General hypothesis on what must be done:

To overcome the challenges posed by information overload and accurately forecast patient admission rates, there is a need to leverage machine learning algorithms. These algorithms can effectively analyze extensive historical admission data along with external variables such as flu patterns, weather conditions, and public holidays. By doing so, they can develop predictive models capable of forecasting admission rates for future periods with remarkable precision.

Solution to the problem:

Machine learning offers a solution by enabling hospitals to harness the power of data analysis to optimize staffing levels and enhance patient care delivery. By continuously learning and refining their predictions over time, machine learning algorithms autonomously adapt to changing circumstances. This approach empowers hospitals to mitigate the effects of information overload, reduce wait times, and ultimately enhance the quality of patient care.