CareerFroundy Exercise 1.1

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Task 3

The future is here, and with it comes a whole new way of collecting information. The result is that we no longer collect so much data that analyzing it and its trends has become incomprehensible to humans.

In the case study of four hospitals in Paris, machine learning (ML) is employed to address the complex challenge of predicting staffing needs. This environment is particularly demanding due to fluctuating patient volumes and the strain on healthcare resources. ML is leveraged to analyze vast amounts of historical data on patient volumes, which allows it to predict future staffing requirements with increasing accuracy over time.

Human analysts could technically perform this task, but it would be incredibly time-intensive and prone to errors due to the sheer volume of data and the need for continuous monitoring and adjustments. ML, on the other hand, excels at processing large datasets quickly and can identify patterns that might be missed by humans. As a result, the ML model not only saves time but also optimizes staffing levels more effectively, ensuring that hospitals are neither under nor overstaffed.

This capability is crucial, especially in regions with aging populations where the ratio of healthcare workers to patients is declining. By efficiently managing staff levels, ML helps improve patient care and reduces the risk of burnout among healthcare workers, who are often overburdened and susceptible to high levels of stress.