

### Feature construction: time-series

The extraction of time patterns is achieved by fitting a linear regression on the data recorded for a feature  $x_t$  during the selected training window for each patient. It results in two values per each entry (patient) from the time-series values of a certain feature  $x_t$ : the slope ( $\beta$ ) and the intercept ( $\alpha$ ) of a linear regression. The slope contains information about increasing and decreasing trends, whereas the intercept provides insight about the baseline value for that specific patient or how far it is from the origin. For instance, if there is a decreasing trend of feature  $x$  over time, it will result in a negative value for  $\beta$  (see Figure 6, which contains a graphical example of a negative trend of feature  $x$  over time).

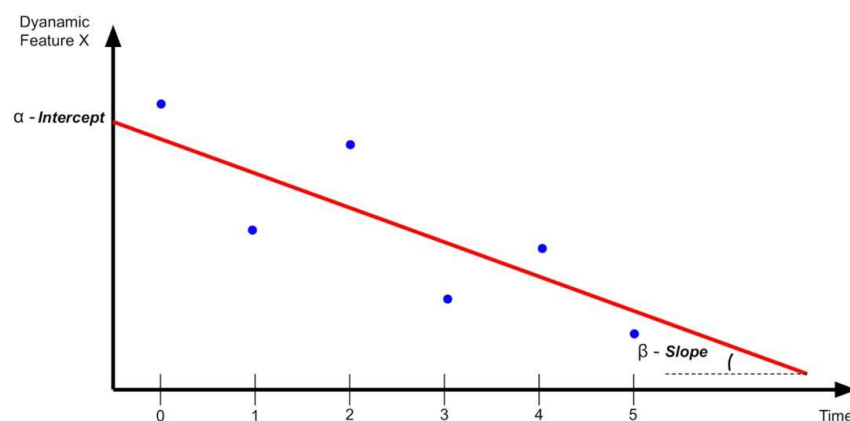


Figure 6 – Graphical representation of the extraction of time patterns from time-series values.