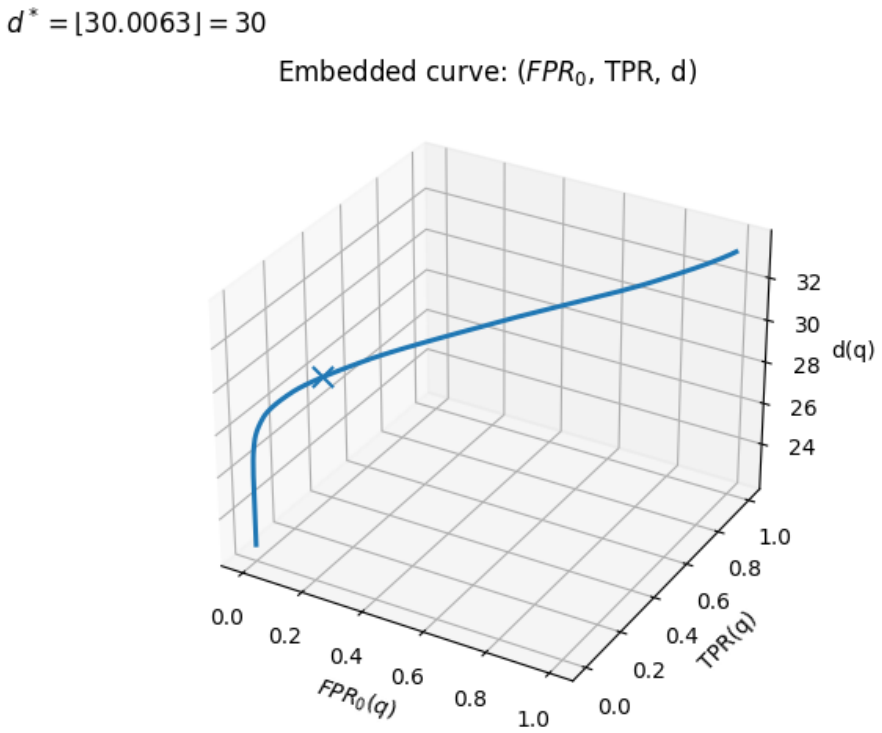

Figure 1: Three–dimensional representation of the decision curve $q \mapsto (\mathrm{FPR}_0(q), \mathrm{TPR}(q), d(q))$. The highlighted point corresponds to the selected operating probability q^* and its associated threshold d^*.

1.2 Graphical representation of the operating characteristics.

While the calibration procedure is entirely defined through the rates $\mathrm{TPR}(q)$, $\mathrm{FPR}_0(q)$ and $\mathrm{FPR}_1(q)$, we favor a three–dimensional graphical representation of the decision rule. Indeed, plotting the curve

$$q \longmapsto \big(\mathrm{FPR}_0(q), \mathrm{TPR}(q), d(q)\big)$$

allows the evolution of the decision threshold to be visualized jointly with the corresponding operating characteristics. In contrast, two–dimensional ROC projections such as TPR versus FPR_0 or FPR_1 necessarily suppress the information carried by the threshold $d(q)$ and may visually collapse distinct operating regimes onto the same curve. The three–dimensional embedding therefore provides a more informative graphical summary of the procedure, while relying on the same underlying probabilistic quantities and leaving the detection rule itself unchanged.