

$$\begin{aligned}
f(x) = & \underbrace{\frac{1}{T} \int_0^T \mathbf{1}\{70 \leq G_x(t) \leq 180\} dt}_{\text{TIR}_{70-180}(x)} \\
& - \underbrace{w_{\text{hypo}} \frac{1}{T} \int_0^T \left(\frac{\max\{0, 70 - G_x(t)\}}{10 \text{ mg/dL}} \right)^2 dt}_{P_{\text{hypo}}(x)} \\
& - \underbrace{w_{\text{hyper}} \frac{1}{T} \int_0^T \left(\frac{\max\{0, G_x(t) - 180\}}{30 \text{ mg/dL}} \right) dt}_{P_{\text{hyper}}(x)} .
\end{aligned}$$