S.2: Pseudo-code for LHR

Algorithm 1: LHR \textsc{Algorithm}(V, W, \lambda)

\textbf{comment:} Variables initialization: $w = \frac{1}{T}$, stopping criteria $\epsilon$, number of iterations $T$

\textbf{for} $t \leftarrow 1$ to $T$
\textbf{while} $\|w^{(t+1)} - w^{(t)}\| > \epsilon$

\begin{enumerate}
\item Estimate the coefficients for hyperplane of nearestmiss and hit $\alpha, \beta$;
\item Calculate the margin by Eq. S.1.7, conditional on the estimated feature weights in $t$ step;
\item Update the weights by Eq. S.1.8, conditional on the estimated hyperplane coefficients.
\end{enumerate}

\textbf{return} $(w)$