

Parameter Name	Parameter Description	Parameter Value
$\alpha$	Learning Rate	0.001
$\beta$	Regularization Control	0.02
$N_{EP}$	Number of Epochs	5000
$U$	Number of Samples	604
$V$	Number of SNPs	1980
$F$	Number of Features	400
$\eta_1$	$\eta$ for Trait 1	0.2
$\eta_2$	$\eta$ for Trait 2	0.2
$K_1$	$K$ for Trait 1	3
$K_2$	$K$ for Trait 2	4
$[a, b]$	Boundary values for $P$ and $Q$	$[0,1]$