

Tissues

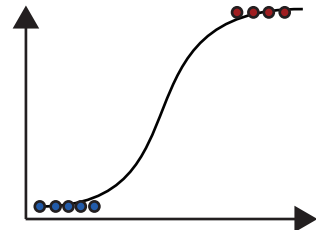
Family	Disease	rs_1	...	rs_M
fam_1	1	T G	...	A A
fam_1	0	T G	...	A A
fam_1	0	G G	...	C A
\vdots	\vdots	\vdots	\vdots	\vdots
\vdots	\vdots	\vdots	\vdots	\vdots
fam_N	0	G G	...	C A

Meiosis simulation
+
GE prediction model

Family	Phenotype	Role	Imputed GE
fam_1	1	Proband	1.5
fam_1	0	PS	-0.2
fam_1	0	PS	-0.7
fam_1	0	PS	-0.3
\vdots	\vdots	\vdots	\vdots
\vdots	\vdots	\vdots	\vdots
fam_N	0	PS	-2.3

Conditional
logistic regression

Phenotype



Imputed GE