Hypothesis: undefined cell X is defective in the differentiation programme D

(a) Current approach

Bias
Current knowledge on genes related to D

Transcriptome X
Interpretable part

D1, D2...

Transcriptome: well-defined cells related to D

“...in D”

“X is defective...”

x1, x2...

Gene1, Gene2

Transcriptome X (main data)

Gene1, Gene2

New space (new axes)

Genes

Regression coefficient

Interpretable part (QS)

Interpretation supported by visualization and variance information

(b) Proposed approach