Dimensionality Reduction
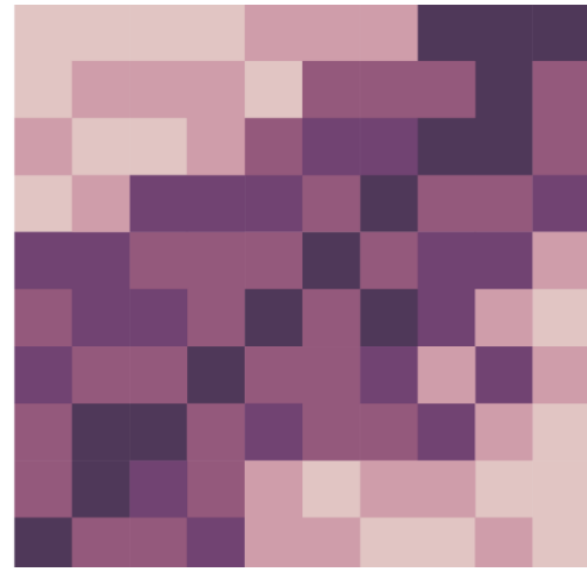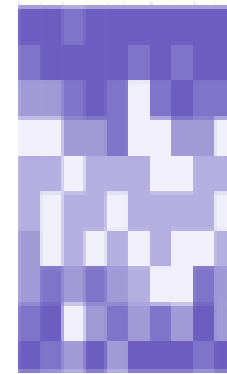
$$\min_{\mathbf{U},\mathbf{Q},\mathbf{A}} \|\mathbf{X} - \mathbf{U}\mathbf{Q}^T\|_{2,1} + \alpha\|\mathbf{Y} - \mathbf{A}\mathbf{Q}^T\|_F^2 + \beta\|\mathbf{Q}\|_{2,1} + \gamma\text{Tr}(\mathbf{Q}^T(\mathbf{PL})\mathbf{Q}), \text{ s.t. } \mathbf{Q}^T\mathbf{Q} = \mathbf{I},$$
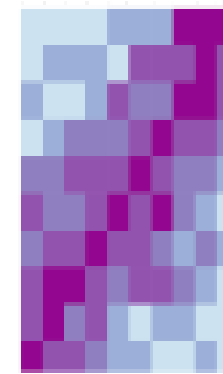
X

- Gene 1
- Gene 2
- ...
- Gene N

Gene Selection

U

Q

Tumor Classification