

Decomposition Techniques

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graph LR; A((Decomposition Techniques)) --- B((Non-negative Matrix Factorisation)); A --- C((Principal Component Analysis)); A --- D((Independent Component Analysis)); A --- E((Singular Value Decomposition)); A --- F((Vector Quantisation));
```

○ **Non-negative Matrix Factorisation**
Enforces non-negativity and sparsity

○ **Principal Component Analysis**
For jointly normally distributed data
Creates orthogonal representation

○ **Independent Component Analysis**
Assumes components are independent

○ **Singular Value Decomposition**
Decomposes into 3 matrices
Useful in least-squares fitting

○ **Vector Quantisation**
Estimates by forming prototypes