

# Package ‘RSSRMR’

May 29, 2026

**Type** Package

**Title** Robust Self-Representation Sparse Reconstruction and Manifold  
Regularization

**Version** 0.1.0

**Description**

Feature selection and clustering classification under the presence of multivariate outliers in high-dimensional unlabeled data.

**License** GPL-3

**Encoding** UTF-8

**RoxygenNote** 8.0.0

**Imports** robustbase, stats

**Suggests** knitr, rmarkdown, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**NeedsCompilation** no

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**Repository** CRAN

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**dweight***Robust Distance Weights*

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**Description**

Computes robust observation weights.

**Usage**

```
dweight(x, q = 0.9)
```

**Arguments**

x	Numeric data matrix.
q	Quantile threshold.

**Value**

Numeric vector of weights.

**Examples**

```
set.seed(123)
x <- matrix(rnorm(50), nrow = 10)
dweight(x)
```

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**RSSRMR***Robust Self-Representation Sparse Reconstruction and Manifold Regularization*

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**Description**

Performs robust sparse self-representation with manifold regularization.

**Usage**

```
RSSRMR(x, Wt, L, alpha = 1, beta = 1, epsilon = 0.001, maxites = 50)
```

**Arguments**

x	Numeric data matrix.
Wt	Weight matrix.
L	Laplacian matrix.
alpha	Regularization parameter.
beta	Graph regularization parameter.
epsilon	Convergence threshold.
maxites	Maximum number of iterations.

**Value**

A list containing:

**Optimum.A** Coefficient matrix

**Optimum.G** Diagonal weight matrix

**Examples**

```
set.seed(6542)

cluster1 <- matrix(
  rnorm(12 * 5, mean = 2, sd = 0.5),
  nrow = 12
)

cluster2 <- matrix(
  rnorm(13 * 5, mean = 7, sd = 0.5),
  nrow = 13
)

X <- rbind(cluster1, cluster2)

wd <- diag(runif(25))
lp <- diag(runif(25))

fit <- RSSRMR(
  x = X,
  Wt = wd,
  L = lp
)

fit$Optimum.G
```

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