kernel

index
c:\users\geral\documents\matlab\hw06\kernel.py

A set of kernel functions and helpers.

Author: Gerald Baulig

Modules

numpy

Functions

RBF(u, v, params={})

```
RBF(u, v, params={}) -> G
A simple Radial Basis Function kernel.
    k(u,v) = exp(-g*(u - v.T)^2)

Args:
    u: The left hand values.
    v: The right hand values.
    params:
        gamma: The variance factor.
Returns:
    G: The Gram-Matrix of an RBF kernel
```

eucledian(u, v, params={})

```
linear(u, v, params={}) -> G
A simple eucledian kernel.
Calculates the distance of each pairing.
    k(u,v) = (u - v.T)^2

Args:
    u: The left hand values.
    v: The right hand values.
    params: No params required.
Returns:
    G: The Gram-Matrix of a linear kernel
```

linear(u, v, params={})

```
linear(u, v, params={}) -> G
A simple linear kernel.
    k(u,v) = u * v.T

Args:
    u: The left hand values.
    v: The right hand values.
    params: No params required.
Returns:
    G: The Gram-Matrix of a linear kernel
```

linearRBF(u, v, params={})

```
RBF(u, v, params={}) -> G
A combination of linear and Radial Basis Function kernel.
    k(u,v) = u * v.T + exp(-g*(u - v.T)^2)

Args:
    u: The left hand values.
    v: The right hand values.
    params:
        gamma: The variance factor.
```

```
    Returns:
        G: The Gram-Matrix of a linearRBF kernel
```

Data

__all__ = ['eucledian', 'linear', 'RBF', 'linearRBF', 'none']
none = None