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"""Vector operations for use in calculating conjugate gradient descent."""

**Classes:**

N/A

**Methods:**

***dot***

"""Finds the dot product of two vectors.

Args:

x1 (Tensor): The first input vector.

x2 (Tensor): The second input vector.

Returns:

The dot product of x1 and x2.

"""

***ip***

"""Finds the identity product of a vector.

Args:

x (Tensor): The input vector.

Returns:

The identity product of x.

"""

***dot\_batch***

"""Finds the dot product of two multidimensional Tensors holding batches of data.

Args:

x1 (Tensor): The first multidimensional Tensor.

x2 (Tensor): The second multidimensional Tensor.

Returns:

The dot products along each dimension of x1 and x2.

"""

***ip\_batch***

"""Finds the identity product of a multidimensional Tensor holding a batch of data.

Args:

x (Tensor): The tensor who’s batch identity product will be computed.

Returns:

The batch identity product of x.

"""

***l2ball\_proj\_batch***

""" Performs a batch projection onto the L2 ball.

Args:

x (Tensor): The tensor to be projected.

eps (Tensor): A tensor containing epsilon values for each dimension of the L2 ball.

Returns:

The projection of x onto the L2 ball.

"""