Use of dot and cross Product in Machine learning

Dot Product: Used in regression which helps in finding the correlation between variables and enables us to predict the continuous output variable based on the one or more predictor variables.

Cross Product: transformation

Used in binary feature in deep learning

and in general

1) calculate the angle ( ) between two vectors,
2) determine a vector normal to a plane,

3) calculate the moment of a force which is a measure of the tendency for rotation about a point, and

 4) calculate the moment of a force about a line