Basic explanation of an SVCA:

The intuition behind how the SVCA learns and classifies data. The SVCA can be defined as the following transformation of an input vector into the proper classification set C.

Now that we have defined our prediction vector in terms of i orthonormal basis vectors *e*, we can define our prediction as the class mapped to the basis of our prediction vector with the largest coefficient. This can be done by looking at the linear map associated with each basis and comparing.

Ex: Look at the graph below in which we observe a 2x1 p vector in purple.

The red and blue vectors are orthogonal to one another and represent the basis vectors of our prediction vector. The which means that the vector has a larger component in said X class vs the Y class. Thus, our prediction vector “collapses” onto the X axis and the corresponding class is chosen.