Summary of the code:

The code is divided into sections with descriptions.
The section: “initialize v ” chooses an initial v. The randomness is controlled by “rng(10);” . To change the initialization change the input of rng. The initialization should be located near the actual area of the partial shape. Blue color indicates the potential well
I adjusted the learning rate during the optimization process. When the learning curve platoes I multiplied alpha by 10. The loss at the beginning is very large so zooming in on it is required as the learning continues.

As i said in the presentation the initialization was done by choosing a random point in a bounding box around the object and centering a gaussian around it The σ of the gaussian was chosen to be proportional to the volume of the bounding box as was suggested in the article.