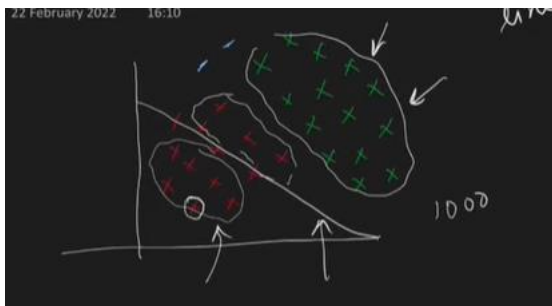# _Problem with Perceptron Trick_

We can't quantify how well our Perceptron Trick is

Some Hypothetical Scenario of Convergence.

What if harbaar jo Random Point vo Select krrha hai vo correctly classified hai. or else he is selecting 1 point again & again, this are some hypothetical scenarios.

& Out of 100%

1.) 1% chances will be their ki line is not reaching convergence
2.) But 100% of the times their will be the problem about whether the line we got is the best Line or not. Or there is some more best lines we can get, yeah pata karna mushkil hai.

So we Solve this issues using

Loss Functions

Because of Loss Function we are able to Quantify our Result,

We got to know ki humara Result kitna acha hai

More Loss Function

Probability mai chaye tou Activation Function jo hai ushe

Sigmoid kesath replace kardo

Perceptron bada Flexible hai

Loss Function jaisa require hai & Activation Function jaisa require & Har baar SGD lagao & jaisa Model chaye vaisa milljayega tumhe

Loss function	Activation	Output
Hinge loss	Step	Perceptron → binary classifir −1 1
log-loss (binary cross entro	sigmoid	Logistic regression 0-1 → binary classifir
categorical cross entropy	softmax	softmax regression → multiclass classifi

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categorical cross entropy	softmax	softmax regression → multiclass classifi probabi
mse	linear	Linear regression → number