

Project 1 for CS421 – University of Illinois at Chicago

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REPORT:

1. We have applied a Linear Classifier using Gradient Descent and loss as hinge loss to find the optimal weights.
2. The code has been uploaded in the **src** folder under **gradient_descent** folder. To run, execute *python formula.py*
3. An input matrix 'X' was defined using the sub scores and a vector 'Y' was defined using the labels. High as 1 and Low as -1.
4. We tried various parameters but the classifier gave the best result when it was run for 1000 iterations and the following weight vector was obtained:

[2.17, -1.8, -0.9, 0.17]

Therefore, the equation becomes: **2.17a - 1.8b - 0.9c + 0.17d**