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COMP3105A

Assignment 3

Table 1: Training accuracies with different number of training dataset sizes

|  |  |  |
| --- | --- | --- |
|  | Model 1 | Model 2 |
| 16 | 0.8625 | 1 |
| 32 | 0.921875 | 0.990625 |
| 64 | 0.8765625 | 0.946875 |
| 128 | 0.86640625 | 0.92734375 |

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Table 2: Test accuracies with different number of training dataset sizes

|  |  |  |
| --- | --- | --- |
|  | Model 1 | Model 2 |
| 16 | 0.7076 | 0.8862 |
| 32 | 0.8098 | 0.8703 |
| 64 | 0.8187 | 0.9012 |
| 128 | 0.8393 | 0.9185 |

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Table 3: Training accuracies with different number dimensions

|  |  |  |
| --- | --- | --- |
| Dim | Model 1 | Model 2 |
| 1 | 0.84851562 | 0.85945313 |
| 2 | 0.65054687 | 0.94257813 |

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Table 4: Test accuracies with different number dimensions

|  |  |  |
| --- | --- | --- |
| Dim | Model 1 | Model 2 |
| 1 | 0.84216 | 0.63107 |
| 2 | 0.83815 | 0.91697 |

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Table 5: Objective values for different

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| obj\_val | 2.355072529689218 | 1.3957051831072367 | 0.7470492803163796 | 0.5655906247538163 | 0.5148405034384456 | 0.4628747028814755 | 0.4325015512513061 | 0.34455448820676876 |



I think is appropriate for this dataset, because the data is generated with 4 distinct clusters. and have high objective values, and the improvement for the objective value when is very small.

2b) results

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