**CSE-472**

Offline 3: Experimental Results

Student ID: 1405021

**Tolerance of Relative Error for Convergence: 0.01**

1. **Hyperparameter Tuning:**

|  |  |  |  |
| --- | --- | --- | --- |
| **K** | **Lambda U** | **Lambda V** | **RMSE of**  **Validation**  **Dataset** |
| 5 | 10.0 | 10.0 | 4.26235 |
| 5 | 1.0 | 1.0 | 4.21467 |
| 5 | 0.1 | 0.1 | 4.23809 |
| 5 | 0.01 | 0.01 | 4.20426 |
| 10 | 10.0 | 10.0 | 4.4645 |
| 10 | 1.0 | 1.0 | 4.3817 |
| 10 | 0.1 | 0.1 | 4.3592 |
| 10 | 0.01 | 0.01 | 4.44637 |
| 20 | 10.0 | 10 | 5.38326 |
| 20 | 1.0 | 1.0 | 5.1192 |
| 20 | 0.1 | 0.1 | 5.08594 |
| 20 | 0.01 | 0.01 | 5.1697 |
| 40 | 10.0 | 10.0 | 7.042986 |
| 40 | 1.0 | 1.0 | 6.94798 |
| 40 | 0.1 | 0.1 | 6.749498 |
| 40 | 0.01 | 0.01 | 6.8843 |

1. **Final Model:**

|  |  |  |  |
| --- | --- | --- | --- |
| **K** | **Lambda U** | **Lambda V** | **RMSE of Test Dataset** |
| 5 | 0.01 | 0.01 | 4.19808 |