

Model Development Phase Template

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| Date | 27 May 2025 |
| Name | Virajsinh Vijay Patil |
| Project Title | Restaurant Recommendation System |
| Maximum Marks | 10 Marks |

Initial Model Training Code, Model Validation and Evaluation Report

Initial Model Training Code (5 marks):

```
from sklearn.feature_extraction.text import CountVectorizer
from sklearn.feature_extraction.text import TfidfVectorizer
df_percent.set_index('name', inplace=True)
indices = pd.Series(df_percent.index)

# Creating tf-idf matrix
tfidf = TfidfVectorizer(analyzer='word', ngram_range=(1, 2), min_df=0, stop_words='english')
tfidf_matrix = tfidf.fit_transform(df_percent['reviews_list'])

cosine_similarities = linear_kernel(tfidf_matrix, tfidf_matrix)
```

Model Validation and Evaluation Report (5 marks):

| Model | Summary | Training and Validation Performance Metrics |
|---------|------------------------------|--|
| Model 1 | Content-based Recommendation | <p>Training Metrics -None (unsupervised, no explicit training phase)</p> <p>Validation Metrics - None (recommendations are inspected manually)</p> |