Here’s a simplified Python code snippet illustrating how you might implement this model using KNN:

python

```
import pandas as pd
from sklearn.neighbors import NearestNeighbors
# Load customer data
data = pd.read_csv('customer_data.csv')
# Preprocess data (cleaning, feature engineering)
# Define features for modeling
features = data[['age', 'gender', 'purchase_frequency', 'product_category']]
# Fit KNN model
knn = NearestNeighbors(n_neighbors=3)
knn.fit(features)
# Input user profile
user_profile = [[25, 'Female', 5, 'Electronics']]  # Example input
# Find similar customers
distances, indices = knn.kneighbors(user_profile)
# Output recommended customers and their similarity scores
recommended_customers = data.iloc[indices[0]]
similarity_scores = 1 / (1 + distances[0])  # Inverse distance for similarity score
recommended_customers['Similarity Score'] = similarity_scores
print(recommended_customers[['Customer ID', 'Similarity Score']])
```