**Data Dictionary for Customer Segmentation Features**

**1. Aggregated Transaction Features**

|  |  |  |
| --- | --- | --- |
| **Feature Name** | **Description** | **Data Type** |
| TotalAmount | Total sum of all transactions made by the customer | float |
| AvgAmount | Average transaction amount per customer | float |
| MaxAmount | Maximum transaction amount by the customer | float |
| MinAmount | Minimum transaction amount by the customer | float |
| AmountStd | Standard deviation of transaction amounts by the customer | float |
| TransactionCount | Total number of transactions made by the customer | int |

**2. Time-Based Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| Recency | Number of days since the customer’s most recent transaction | int |
| PreferredHour | Most common hour of the day when the customer makes transactions | int |

**3. Behavioral Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| FraudRate | Proportion of fraudulent transactions made by the customer | float |
| DeclineRate | Proportion of declined transactions by the customer | float |
| UniquePaymentMethods | Number of unique payment methods used by the customer | int |
| PreferredDevice | Most frequently used device type by the customer | object |

**4. Location-Based Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| AvgLatitude | Mode of latitude from the most frequent transaction location | float |
| AvgLongitude | Mode of longitude from the most frequent transaction location | float |

**5. Demographic Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| AvgCustomerAge | Average age of the customer based on transactions | float |
| AvgAccountAge | Average account age (in days) of the customer | float |
| AvgBasketSize | Average transaction amount per item purchased by the customer | float |

**6. Merchant Category Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| [CategoryName] | Count of transactions for each merchant category (e.g., Grocery, Tech) | int |

**7. Transaction Status Features**

|  |  |  |
| --- | --- | --- |
| Feature Name | Description | Data Type |
| CompletedRate | Proportion of transactions that were completed | float |
| FailedRate | Proportion of transactions that failed | float |
| PendingRate | Proportion of transactions that are pending | float |