

Data Analysis with Python

Cheat Sheet: Data Wrangling

| Package/Method | Description | Code Example |
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| Replace missing data with frequency | Replace the missing values of the data set attribute with the mode common occurring entry in the column. | <pre>MostFrequentEntry = df['attribute_name'].value_counts().idxmax() df['attribute_name'].replace(np.nan,MostFrequentEntry,inplace=True)</pre> |
| Replace missing data with mean | Replace the missing values of the data set attribute with the mean of all the entries in the column. | <pre>AverageValue=df['attribute_name'].astype(<data_type>).mean(axis=0) df['attribute_name'].replace(np.nan, AverageValue, inplace=True)</pre> |
| Fix the data types | Fix the data types of the columns in the dataframe. | <pre>df[['attribute1_name', 'attribute2_name', ...]] = df[['attribute1_name', 'attribute2_name', ...]].astype('data_type') #data_type is int, float, char, etc.</pre> |
| Data Normalization | Normalize the data in a column such that the values are restricted between 0 and 1. | <pre>df['attribute_name'] = df['attribute_name']/df['attribute_name'].max()</pre> |
| Binning | Create bins of data for better analysis and visualization. | <pre>bins = np.linspace(min(df['attribute_name']), max(df['attribute_name'],n) # n is the number of bins needed GroupNames = ['Group1','Group2','Group3,...] df['binned_attribute_name'] = pd.cut(df['attribute_name'], bins, labels=GroupNames, include_lowest=True)</pre> |
| Change column name | Change the label name of a dataframe column. | <pre>df.rename(columns={'old_name':'new_name'}, inplace=True)</pre> |
| Indicator Variables | Create indicator variables for categorical data. | <pre>dummy_variable = pd.get_dummies(df['attribute_name']) df = pd.concat([df, dummy_variable],axis = 1)</pre> |

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