

Creates GUI Component

`__init__`

- Initialize component and store `app_state`
- Declares all the GUI component variables
- Calls `create_components`
- Calls `setup_layout`

`create_widgets`

- Initializes all of the GUI component variables
- Adds bindings to required GUI components
- Adds the styling arguments to GUI components

`setup_layout`

- Creates a row and column configuration for the GUI
- Adds all of the GUI components to itself

Creates heatmap figure

`create_heatmap_fig`

- Shows an error message if the `df` has not been cleaned
- Calls **`main.run_analysis`**
- Calls **`main.create_blank_fig(grid=False)`**
- Adds a title and x and y label
- Sets the tick label sizes to fit the plot
- Gets the user `heatmap_mode` input
- Gets the `pca_results` loadings from `app_state`
- Calls **`get_focus_cols`**
- Calls **`display_loadings_heatmap`**
- Calls **`main.update_figure`**

`get_focus_cols`

- Gets the `df` column names
- Gets the loadings for the first principle component
- Converts the first principal component loadings into a `pd.Series` and sorts values
- If top 10 or 20 features are selected
 - Return top 10 or 20 features
- If custom features is selected
 - Get the columns from the `focus_entry`
 - Raise an error if `focus_entry` doesn't exist
 - Raise an error if no cols are provided in the `focus_entry`
 - Raise an error if some of the selected columns are not in the `df`

- Return the custom features
- If an exception occurs show an error and return None

display_loadings_heatmap

- Select all data_columns if no focus columns are provided
- Get the loadings for the selected columns
- Create a new figure using the fig_size in app_state
- Generate a heatmap
- Sets title and x and y labels
- Sets tick_parameter sizing

on_heatmap_mode_change

- Disables and enables the focus column entry