Results in tables

In [1]:
```
import pandas as pd
import os
from collections import defaultdict
from IPython.display import display
```

In [2]:
```
results_folder = "results"
model_types = ["cnn14_logstft", "logmel_cnn14"]
method_names = ["saliency", "gradcam", "lime", "shap"]
exp_types_mapping = {
    "cnn14_logstft": ["clean"],
    "logmel_cnn14": ["clean", "white", "room", "horse"]
}
folder_for_tables = "csvs"
```

In [3]:
```
csv_files = []
for model in model_types:
    for method in method_names:
        for exp in exp_types_mapping[model]:
            dir_path = os.path.join(results_folder,
                                    model,
                                    f"{method}_{exp}",
                                    folder_for_tables)
            if not os.path.isdir(dir_path):
                continue
            for fname in os.listdir(dir_path):
                if fname.endswith(".csv"):
                    csv_files.append(os.path.join(dir_path, fname))
```

In [4]:
```
experiment_results = {m: {} for m in model_types}
for fpath in csv_files:
    parts = fpath.split(os.sep)
    model_type = parts[parts.index(results_folder) + 1]
    method, exp = parts[parts.index(results_folder) + 2].split("_", 1)
    exp_name = f"{method}_{exp}"
    mask_name = os.path.splitext(parts[-1])[0]

    df = pd.read_csv(fpath)
    metrics = df.columns.difference(['sample', 'is_correct'])
    means = df[metrics].mean()

    experiment_results[model_type].setdefault(exp_name, {})[mask_name] = means
```

In [5]:
```
for model, exps in experiment_results.items():
    for exp_name, mask_dict in exps.items():
        experiment_results[model][exp_name] = pd.DataFrame(mask_dict).T
```

In [6]:
```
experiment_results_true  = {m: {} for m in model_types}
experiment_results_false = {m: {} for m in model_types}

for fpath in csv_files:
    parts = fpath.split(os.sep)
    model_type  = parts[parts.index(results_folder) + 1]
    method, exp = parts[parts.index(results_folder) + 2].split("_", 1)
    exp_name = f"{method}_{exp}"
    mask_name = os.path.splitext(parts[-1])[0]

    df = pd.read_csv(fpath)
    metrics = df.columns.difference(['sample', 'is_correct'])

    means_t = df[df['is_correct'] == True][metrics].mean()
    means_f = df[df['is_correct'] == False][metrics].mean()

    experiment_results_true[model_type].setdefault(exp_name, {})[mask_name]  = means_t
    experiment_results_false[model_type].setdefault(exp_name, {})[mask_name] = means_f

for m in model_types:
    for exp_name, mask_dict in experiment_results_true[m].items():
        experiment_results_true[m][exp_name] = pd.DataFrame(mask_dict).T
    for exp_name, mask_dict in experiment_results_false[m].items():
        experiment_results_false[m][exp_name] = pd.DataFrame(mask_dict).T
```

In [7]:
```
mask_experiment_results = {m: {} for m in model_types}
for fpath in csv_files:
    parts = fpath.split(os.sep)
    model_type = parts[parts.index(results_folder) + 1]
    method, exp = parts[parts.index(results_folder) + 2].split("_", 1)
    mask_name = os.path.splitext(parts[-1])[0]
```

```
    df = pd.read_csv(fpath)
    metrics = df.columns.difference(['sample', 'is_correct'])
    means = df[metrics].mean()

    mask_experiment_results[model_type]\
      .setdefault(exp, {})\
      .setdefault(mask_name, {})[method] = means

for model, exps in mask_experiment_results.items():
    for exp_type, masks in exps.items():
        for mask_name, methods_dict in masks.items():
            mask_experiment_results[model][exp_type][mask_name] = \
                pd.DataFrame(methods_dict).T
```

In [8]:
```
column_order    = ["FF", "AI", "AG", "FidIn", "SPS", "AD", "COMP"]
invert_metrics  = {"AD", "COMP"}
diff_color_cols = {"SPS", "COMP"}
```

In [9]:
```
def highlight_extremes(col: pd.Series):
    is_invert = col.name in invert_metrics
    use_blue  = col.name in diff_color_cols
    mx, mn    = col.max(), col.min()
    styles    = []
    for v in col:
        if use_blue:
            if is_invert:
                if v == mn: styles.append('background-color: lightblue; font-weight: bold')
                elif v == mx: styles.append('background-color: lightsteelblue; font-weight: bold')
                else: styles.append('')
            else:
                if v == mx: styles.append('background-color: lightblue; font-weight: bold')
                elif v == mn: styles.append('background-color: lightsteelblue; font-weight: bold')
                else: styles.append('')
        else:
            if is_invert:
                if v == mn: styles.append('background-color: lightgreen; font-weight: bold')
                elif v == mx: styles.append('background-color: lightcoral; font-weight: bold')
                else: styles.append('')
            else:
                if v == mx: styles.append('background-color: lightgreen; font-weight: bold')
                elif v == mn: styles.append('background-color: lightcoral; font-weight: bold')
                else: styles.append('')
    return styles
```

In [10]:
```
def display_experiment_results(results):
    def _show(df, title=None):
        df = df.reindex(columns=[c for c in column_order if c in df.columns])
        styled = df.style.apply(highlight_extremes, axis=0)
        if title:
            print(f"\n--- {title} ---")
        display(styled)

    if isinstance(results, pd.DataFrame):
        _show(results)
        return

    if all(isinstance(v, pd.DataFrame) for v in results.values()):
        for name, df in results.items():
            _show(df, title=name)
        return

    for model, exps in results.items():
        print(f"\n===== MODEL: {model} =====")
        for name, df in exps.items():
            _show(df, title=name)
```

Mel model - clean

In [11]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.923978	**19.500000**	0.030776	0.652500	0.176250	**34.762647**	3.413026
topK_30_pos	0.924232	**0.000000**	**0.000000**	**0.015000**	0.700006	**98.379270**	9.171496
minmax_pos	0.765674	0.250000	0.049200	0.087500	0.789556	94.029495	9.025832
topK_5_pos	0.765061	**0.000000**	**0.000000**	0.022500	0.949973	97.663678	7.380256
pos_thresh_50	0.033590	0.250000	0.173707	**0.015000**	**0.998819**	97.721229	3.123119
topK_50	**0.925224**	**0.000000**	**0.000000**	0.020000	0.500000	98.340200	9.682342
pos_thresh_25	0.267537	0.500000	0.339988	0.022500	0.990411	97.134056	5.498956
bin	0.925166	**0.000000**	**0.000000**	0.020000	0.501420	98.346021	9.679453
minmax	0.865298	3.750000	**3.182013**	0.272500	0.038222	77.518508	10.372004
topK_5	0.765061	**0.000000**	**0.000000**	0.022500	0.949973	97.663678	7.380256
topK_30	0.924232	**0.000000**	**0.000000**	**0.015000**	0.700006	**98.379270**	9.171496
sigmoid	0.494280	3.500000	1.587410	**0.705000**	0.000435	38.660613	10.375489
sigmoid_pos	0.459920	2.500000	1.172303	0.677500	**0.000218**	41.394705	**10.375489**
pos_thresh_75	**0.004059**	**0.000000**	**0.000000**	0.032500	0.998683	97.390892	**1.327483**

In [12]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.620665	11.250000	0.937880	0.655000	0.376843	38.935879	7.311478
topK_30_pos	0.362573	7.500000	0.592328	0.447500	0.594134	60.988887	7.798657
minmax_pos	0.431521	0.750000	0.675450	0.362500	0.396169	70.568771	9.305840
topK_5_pos	0.079036	2.500000	0.000586	0.140000	0.889484	88.365241	6.940669
pos_thresh_50	0.365905	4.750000	1.725173	0.460000	0.539708	60.330152	8.580231
topK_50	0.525057	4.250000	2.337507	0.550000	0.499072	50.483148	9.684185
pos_thresh_25	0.599441	12.250000	**2.856096**	0.682500	0.347645	37.203954	7.528248
bin	**0.719301**	**21.500000**	2.344471	**0.782500**	0.195540	**24.415372**	**4.918489**
minmax	0.513954	1.250000	0.772345	0.392500	0.335306	66.666616	10.150722
topK_5	**0.030442**	**0.000000**	**0.000000**	**0.095000**	**0.948799**	**93.796811**	7.403085
topK_30	0.273740	2.000000	0.822263	0.355000	0.698777	71.296085	9.175542
sigmoid	0.503141	2.000000	0.972663	0.677500	0.026292	41.577628	**10.373997**
sigmoid_pos	0.509001	2.750000	1.287837	0.672500	**0.021328**	41.110658	9.803656
pos_thresh_75	0.158462	0.250000	0.220969	0.220000	0.782444	83.858354	7.872584

In [13]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.827965	13.750000	5.367577	0.755000	0.460687	30.268507	9.411879
topK_30_pos	0.623068	10.000000	4.776571	0.550000	0.674052	49.213681	9.252109
minmax_pos	0.755739	3.500000	1.596777	0.437500	0.547097	60.692678	9.738116
topK_5_pos	**0.158620**	**2.000000**	1.222816	**0.305000**	**0.913671**	**72.956990**	**7.874178**
pos_thresh_50	0.493181	3.000000	1.669558	0.472500	0.748397	58.130710	8.789097
topK_50	0.826212	13.750000	6.091994	0.747500	0.475981	30.978062	9.728370
pos_thresh_25	0.801759	9.500000	4.611255	0.702500	0.562260	34.795579	9.407741
bin	**0.900067**	**29.250000**	**12.582630**	**0.932500**	0.198701	**8.220830**	9.588828
minmax	0.788149	4.250000	2.253361	0.487500	0.392208	56.334667	10.071627
topK_5	**0.158620**	**2.000000**	1.222816	**0.305000**	**0.913671**	**72.956990**	**7.874178**
topK_30	0.623068	10.000000	4.776571	0.550000	0.674052	49.213681	9.252109
sigmoid	0.497468	**2.000000**	**0.959788**	0.677500	0.014293	42.361412	10.374873
sigmoid_pos	0.496658	**2.000000**	0.966856	0.675000	**0.013022**	42.472529	**10.374929**
pos_thresh_75	0.238357	3.250000	1.655698	0.350000	0.861851	68.144398	8.185629

In [14]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.927127**	**0.000000**	**0.000000**	0.017500	0.500000	**98.489148**	9.682342
topK_30_pos	0.920322	**0.000000**	**0.000000**	**0.015000**	0.700006	98.376756	9.171496
minmax_pos	0.742942	**0.000000**	**0.000000**	0.017500	0.730384	98.140790	9.325663
topK_5_pos	0.644688	**0.000000**	**0.000000**	0.027500	0.949973	97.529223	7.380256
pos_thresh_50	0.059366	0.250000	0.190183	0.025000	0.996374	97.753458	4.424030
topK_50	**0.927127**	**0.000000**	**0.000000**	0.017500	0.500000	**98.489148**	9.682342
pos_thresh_25	0.514174	**0.000000**	**0.000000**	0.020000	0.955756	97.999605	7.109134
bin	0.927023	**0.000000**	**0.000000**	**0.015000**	0.488779	98.448436	9.704492
minmax	0.896360	**0.000000**	**0.000000**	0.080000	0.069193	93.938898	10.366691
topK_5	0.644688	**0.000000**	**0.000000**	0.027500	0.949973	97.529223	7.380256
topK_30	0.920322	**0.000000**	**0.000000**	**0.015000**	0.700006	98.376756	9.171496
sigmoid	0.411536	1.750000	0.706118	**0.635000**	0.001600	45.858975	10.375483
sigmoid_pos	0.413540	**2.000000**	**0.717578**	0.632500	**0.000816**	**45.765689**	**10.375487**
pos_thresh_75	**0.000943**	**0.000000**	**0.000000**	0.027500	**0.998980**	97.767957	**1.983555**

STFT model - clean

In [15]:
```
display_experiment_results(experiment_results["cnn14_logstft"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.804260**	**23.000000**	0.005567	**0.515000**	0.246247	**48.375174**	5.221556
topK_30_pos	0.775904	1.000000	0.693553	0.027500	0.699991	96.591307	10.091336
minmax_pos	0.793775	1.250000	0.376756	0.045000	0.783133	94.490105	9.997836
topK_5_pos	0.616458	0.750000	0.564025	0.032500	0.949986	96.526038	8.299783
pos_thresh_50	0.031187	0.500000	0.244557	0.030000	**0.999007**	96.525065	3.675487
topK_50	0.791538	0.500000	0.428297	0.025000	0.499994	96.391408	10.602145
pos_thresh_25	0.220229	1.000000	0.120974	0.037500	0.991122	95.673791	6.327209
bin	0.791234	0.500000	0.428138	0.025000	0.500300	96.423009	10.601499
minmax	0.787943	10.000000	**6.311180**	0.345000	0.038136	66.198419	11.292009
topK_5	0.616458	0.750000	0.564025	0.032500	0.949986	96.526038	8.299783
topK_30	0.775904	1.000000	0.693553	0.027500	0.699991	96.591307	10.091336
sigmoid	0.643463	2.500000	0.837945	0.202500	0.000142	79.326934	11.295279
sigmoid_pos	0.641395	2.000000	0.750859	0.197500	**0.000071**	79.565120	**11.295279**
pos_thresh_75	**0.006409**	**0.000000**	**0.000000**	**0.012500**	0.997725	**97.249695**	**1.619247**

In [16]:
```
display_experiment_results(experiment_results["cnn14_logstft"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.724521**	**22.750000**	0.212617	**0.700000**	0.224973	**31.095250**	**4.771013**
topK_30_pos	0.572838	13.500000	0.218326	0.520000	0.440970	50.516011	6.357624
minmax_pos	0.320162	0.500000	0.087145	0.100000	0.610099	90.740430	9.345481
topK_5_pos	0.191101	4.750000	0.070849	0.160000	0.835977	84.389165	7.304025
pos_thresh_50	0.267266	0.250000	0.207852	0.117500	0.762309	89.263071	8.491924
topK_50	0.585988	4.000000	**1.156712**	0.435000	0.499936	59.905164	10.602260
pos_thresh_25	0.398405	2.250000	0.982882	0.270000	0.600836	73.915097	9.141945
bin	0.474271	9.250000	1.076550	0.505000	0.451469	54.052505	8.473753
minmax	0.567426	1.750000	0.522353	0.262500	0.295463	75.670870	11.139101
topK_5	0.114918	0.250000	0.070103	**0.042500**	**0.949974**	**95.884257**	8.300031
topK_30	0.425778	1.750000	0.694706	0.272500	0.699955	76.861480	10.091457
sigmoid	0.634945	1.750000	0.747129	0.190000	0.014195	80.017408	**11.294890**
sigmoid_pos	0.645249	2.250000	0.778186	0.205000	**0.007431**	79.145813	10.504438
pos_thresh_75	**0.101654**	**0.000000**	**0.000000**	0.050000	0.879791	95.191847	7.329040

In [17]:
```
display_experiment_results(experiment_results["cnn14_logstft"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.765800	15.500000	8.450201	0.442500	0.473102	55.774762	10.191675
topK_30_pos	0.694406	10.000000	5.281612	0.345000	0.691540	66.936226	10.118867
minmax_pos	0.637870	1.000000	0.381859	0.182500	0.621597	84.515637	10.526510
topK_5_pos	0.243031	0.750000	0.135247	0.135000	0.936590	89.532042	8.526989
pos_thresh_50	0.433959	0.750000	0.290252	0.182500	0.869844	84.201880	9.094784
topK_50	0.765135	14.750000	8.862266	0.415000	0.492814	58.199032	10.616330
pos_thresh_25	0.677671	5.500000	2.461060	0.327500	0.699007	69.090076	9.976185
bin	**0.788757**	**25.000000**	**13.723769**	**0.677500**	0.272594	**32.426248**	10.960349
minmax	0.689437	2.750000	1.586585	0.237500	0.310267	77.675293	11.106747
topK_5	0.243031	0.750000	0.135247	0.135000	0.936590	89.532042	8.526989
topK_30	0.694406	10.000000	5.281612	0.345000	0.691540	66.936226	10.118867
sigmoid	0.647799	2.500000	0.864931	0.217500	0.007558	78.280602	11.295109
sigmoid_pos	0.648592	2.500000	0.868853	0.222500	**0.006366**	78.255852	**11.295133**
pos_thresh_75	**0.208866**	**0.250000**	**0.079001**	**0.120000**	**0.943331**	**90.890364**	**8.255963**

In [18]:
```
display_experiment_results(experiment_results["cnn14_logstft"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.802138**	**4.500000**	0.378346	0.117500	0.448744	88.001383	9.515425
topK_30_pos	0.763902	0.500000	0.387124	0.027500	0.699991	97.378701	10.091336
minmax_pos	0.455324	0.250000	0.026467	0.020000	0.733023	96.696586	10.238195
topK_5_pos	0.444992	0.250000	0.030067	0.017500	0.949986	96.537593	8.299783
pos_thresh_50	0.042822	0.750000	0.169460	**0.010000**	0.997583	97.548443	4.935369
topK_50	0.797199	0.500000	0.377015	0.020000	0.499994	97.530267	10.602145
pos_thresh_25	0.325784	**0.000000**	**0.000000**	0.020000	0.963614	97.009564	7.850699
bin	0.796336	0.500000	0.376223	0.020000	0.491457	97.488084	10.618963
minmax	0.758162	1.250000	0.592648	0.085000	0.072735	92.499063	11.285742
topK_5	0.444992	0.250000	0.030067	0.017500	0.949986	96.537593	8.299783
topK_30	0.763902	0.500000	0.387124	0.027500	0.699991	97.378701	10.091336
sigmoid	0.638557	2.000000	0.677229	0.190000	0.000569	79.908976	11.295279
sigmoid_pos	0.638847	2.000000	**0.679610**	**0.192500**	**0.000291**	**79.869429**	**11.295279**
pos_thresh_75	**0.000924**	0.250000	0.015379	0.012500	**0.998292**	**97.660090**	**2.156133**

Mel model clean - correct

In [19]:
```
display_experiment_results(experiment_results_true["logmel_cnn14"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.945930	**18.970190**	0.032772	0.672087	0.166667	**32.913612**	3.227447
topK_30_pos	0.945553	**0.000000**	**0.000000**	**0.016260**	0.700006	**98.370145**	9.171496
minmax_pos	0.779188	**0.000000**	**0.000000**	0.092141	0.788301	94.155389	9.036207
topK_5_pos	0.777622	**0.000000**	**0.000000**	0.024390	0.949973	97.663282	7.380256
pos_thresh_50	0.028512	0.271003	0.188301	**0.016260**	**0.998818**	97.860160	3.128258
topK_50	**0.946395**	**0.000000**	**0.000000**	0.021680	0.500000	98.327665	9.682342
pos_thresh_25	0.260724	0.271003	0.181759	0.021680	0.990392	97.348120	5.510513
bin	0.946325	**0.000000**	**0.000000**	0.021680	0.501540	98.333468	9.679220
minmax	0.882657	4.065041	**3.449337**	0.281843	0.038650	76.541254	10.371956
topK_5	0.777622	**0.000000**	**0.000000**	0.024390	0.949973	97.663282	7.380256
topK_30	0.945553	**0.000000**	**0.000000**	**0.016260**	0.700006	**98.370145**	9.171496
sigmoid	0.487244	3.252033	1.560135	**0.731707**	0.000438	36.222575	10.375489
sigmoid_pos	0.451763	2.710027	1.270789	0.710027	**0.000220**	38.729214	**10.375489**
pos_thresh_75	**0.005015**	**0.000000**	**0.000000**	0.035230	0.998675	97.617022	**1.321583**

In [20]:
```
display_experiment_results(experiment_results_true["logmel_cnn14"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.629946	10.840108	0.827032	0.669377	0.384187	38.173037	7.453263
topK_30_pos	0.361826	6.775068	0.433512	0.449864	0.604239	61.372235	7.931778
minmax_pos	0.442244	0.542005	0.497610	0.379404	0.388991	69.413360	9.366266
topK_5_pos	0.077348	2.439024	0.000478	0.138211	0.892247	88.709117	6.961417
pos_thresh_50	0.376747	4.336043	1.595904	0.476965	0.535282	58.906517	8.656260
topK_50	0.534277	4.065041	2.204332	0.579946	0.499103	48.469677	9.684124
pos_thresh_25	0.619369	11.924119	**2.839814**	0.710027	0.339970	35.021535	7.534216
bin	**0.744318**	**20.596206**	2.103116	**0.802168**	0.185936	**22.377705**	**4.848194**
minmax	0.523829	1.084011	0.568553	0.411924	0.336620	65.367192	10.149168
topK_5	**0.028166**	**0.000000**	**0.000000**	**0.094851**	**0.948831**	**93.912992**	7.402479
topK_30	0.275819	1.897019	0.683197	0.373984	0.698786	70.145173	9.175513
sigmoid	0.501387	2.168022	1.054378	0.712737	0.027385	38.409675	**10.373904**
sigmoid_pos	0.507608	2.981030	1.396029	0.712737	**0.022404**	37.904101	9.839989
pos_thresh_75	0.162266	0.271003	0.239533	0.227642	0.782927	83.319826	7.925617

In [21]:
```
display_experiment_results(experiment_results_true["logmel_cnn14"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.848128	13.821138	5.541111	0.777778	0.461713	28.734748	9.438559
topK_30_pos	0.631443	9.485095	4.680134	0.563686	0.673673	48.357686	9.253320
minmax_pos	0.770707	3.252033	1.445030	0.460705	0.542873	59.269855	9.752387
topK_5_pos	**0.145094**	**1.355014**	**0.881278**	**0.311653**	**0.912832**	**72.466547**	**7.882877**
pos_thresh_50	0.499723	2.710027	1.461609	0.490515	0.743620	56.924556	8.820354
topK_50	0.846282	13.821138	6.209903	0.772358	0.475805	29.233836	9.728735
pos_thresh_25	0.817317	9.214092	4.473934	0.731707	0.556291	32.729904	9.431148
bin	**0.921885**	**28.997290**	**12.928927**	**0.953930**	0.194439	**6.339726**	9.605351
minmax	0.804573	4.065041	2.057597	0.509485	0.394021	54.719502	10.071695
topK_5	**0.145094**	**1.355014**	**0.881278**	**0.311653**	**0.912832**	**72.466547**	**7.882877**
topK_30	0.631443	9.485095	4.680134	0.563686	0.673673	48.357686	9.253320
sigmoid	0.493175	2.168022	1.040421	0.704607	0.014481	39.743480	10.374858
sigmoid_pos	0.492278	2.168022	1.048082	0.701897	**0.013282**	39.865358	**10.374911**
pos_thresh_75	0.230002	2.710027	1.442399	0.363144	0.858747	67.195598	8.210477

In [22]:
```
display_experiment_results(experiment_results_true["logmel_cnn14"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.948405**	**0.000000**	**0.000000**	0.018970	0.500000	**98.487201**	9.682342
topK_30_pos	0.942525	**0.000000**	**0.000000**	**0.016260**	0.700006	98.375310	9.171496
minmax_pos	0.756793	**0.000000**	**0.000000**	0.018970	0.730700	98.266188	9.324414
topK_5_pos	0.660254	**0.000000**	**0.000000**	0.027100	0.949973	97.559893	7.380256
pos_thresh_50	0.056377	**0.000000**	**0.000000**	0.021680	0.996380	97.994351	4.427682
topK_50	**0.948405**	**0.000000**	**0.000000**	0.018970	0.500000	**98.487201**	9.682342
pos_thresh_25	0.523994	**0.000000**	**0.000000**	0.018970	0.955952	98.076229	7.102217
bin	0.948275	**0.000000**	**0.000000**	**0.016260**	0.488946	98.450214	9.704169
minmax	0.916186	**0.000000**	**0.000000**	0.084011	0.069038	93.862954	10.366718
topK_5	0.660254	**0.000000**	**0.000000**	0.027100	0.949973	97.559893	7.380256
topK_30	0.942525	**0.000000**	**0.000000**	**0.016260**	0.700006	98.375310	9.171496
sigmoid	0.402462	1.897019	0.765439	**0.672087**	0.001581	43.058859	10.375483
sigmoid_pos	0.404588	**2.168022**	**0.777862**	0.669377	**0.000807**	**42.974520**	**10.375487**
pos_thresh_75	**0.001610**	**0.000000**	**0.000000**	0.024390	**0.998985**	98.047740	**1.986147**

Mel model clean - incorrect

In [23]:
```
display_experiment_results(experiment_results_false["logmel_cnn14"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.662683	**25.806452**	0.007012	**0.419355**	0.290323	**56.772124**	5.622005
topK_30_pos	0.670452	**0.000000**	**0.000000**	**0.000000**	0.700006	98.487889	9.171496
minmax_pos	0.604809	3.225806	0.634842	0.032258	0.804490	92.530957	8.902336
topK_5_pos	0.615548	**0.000000**	**0.000000**	**0.000000**	0.949973	97.668387	7.380256
pos_thresh_50	0.094023	**0.000000**	**0.000000**	**0.000000**	**0.998830**	96.067506	3.061940
topK_50	0.673223	**0.000000**	**0.000000**	**0.000000**	0.500000	98.489405	9.682342
pos_thresh_25	0.348635	3.225806	**2.223423**	0.032258	0.990646	94.585996	5.361396
bin	**0.673297**	**0.000000**	**0.000000**	**0.000000**	0.499992	**98.495439**	9.682235
minmax	0.658673	**0.000000**	**0.000000**	0.161290	0.033131	89.150973	10.372574
topK_5	0.615548	**0.000000**	**0.000000**	**0.000000**	0.949973	97.668387	7.380256
topK_30	0.670452	**0.000000**	**0.000000**	**0.000000**	0.700006	98.487889	9.171496
sigmoid	0.578034	6.451613	1.912073	0.387097	0.000389	67.681129	10.375489
sigmoid_pos	0.557014	**0.000000**	**0.000000**	0.290323	**0.000194**	73.122639	**10.375489**
pos_thresh_75	**-0.007319**	**0.000000**	**0.000000**	**0.000000**	0.998778	94.699209	**1.397713**

In [24]:
```
display_experiment_results(experiment_results_false["logmel_cnn14"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.510193	16.129032	2.257326	0.483871	0.289423	**48.016166**	**5.623788**
topK_30_pos	0.371457	16.129032	2.482751	0.419355	0.473852	56.425804	6.214097
minmax_pos	0.303876	3.225806	2.792318	0.161290	0.481611	84.321882	8.586580
topK_5_pos	0.099126	3.225806	0.001865	0.161290	0.856600	84.272004	6.693700
pos_thresh_50	0.236848	9.677419	3.263896	0.258065	0.592389	77.276004	7.675247
topK_50	0.415306	6.451613	3.922723	0.193548	0.498703	74.449956	9.684918
pos_thresh_25	0.362229	16.129032	3.049895	0.354839	0.439003	63.181778	7.457209
bin	0.421516	**32.258065**	**5.217375**	**0.548387**	0.309858	48.670189	5.755226
minmax	0.396398	3.225806	3.198132	0.161290	0.319672	82.133953	10.169226
topK_5	**0.057536**	**0.000000**	**0.000000**	**0.096774**	**0.948411**	**92.413879**	7.410300
topK_30	0.249003	3.225806	2.477605	0.129032	0.698672	84.995646	9.175883
sigmoid	0.524023	**0.000000**	**0.000000**	0.258065	0.013288	79.286488	**10.375098**
sigmoid_pos	**0.525584**	**0.000000**	**0.000000**	0.193548	**0.008517**	79.279032	9.371172
pos_thresh_75	0.113171	**0.000000**	**0.000000**	0.129032	0.776694	90.268567	7.241315

In [25]:
```
display_experiment_results(experiment_results_false["logmel_cnn14"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.587966	12.903226	3.301967	0.483871	0.448474	48.525184	9.094302
topK_30_pos	0.523378	16.129032	5.924479	0.387097	0.678558	59.402784	9.237693
minmax_pos	0.577573	6.451613	3.403052	**0.161290**	0.597369	77.628871	9.568252
topK_5_pos	**0.319619**	9.677419	5.288215	0.225806	**0.923666**	78.794837	**7.770636**
pos_thresh_50	0.415311	6.451613	4.144820	0.258065	0.805263	72.487831	8.417035
topK_50	0.587315	12.903226	4.688493	0.451613	0.478075	51.739974	9.724026
pos_thresh_25	0.616573	12.903226	6.245823	0.354839	0.633312	59.383782	9.129119
bin	**0.640355**	**32.258065**	**8.460583**	**0.677419**	0.249431	**30.612040**	9.392148
minmax	0.592647	6.451613	4.583587	0.225806	0.370629	75.560343	10.070813
topK_5	**0.319619**	9.677419	5.288215	0.225806	**0.923666**	78.794837	**7.770636**
topK_30	0.523378	16.129032	5.924479	0.387097	0.678558	59.402784	9.237693
sigmoid	0.548571	**0.000000**	**0.000000**	0.354839	0.012047	73.523246	10.375056
sigmoid_pos	0.548792	**0.000000**	**0.000000**	0.354839	**0.009927**	73.506275	**10.375140**
pos_thresh_75	0.337816	9.677419	4.194638	0.193548	0.898795	**79.438178**	7.889867

In [26]:
```
display_experiment_results(experiment_results_false["logmel_cnn14"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.673850	**0.000000**	**0.000000**	**0.000000**	0.500000	**98.512321**	9.682342
topK_30_pos	0.656034	**0.000000**	**0.000000**	**0.000000**	0.700006	98.393957	9.171496
minmax_pos	0.578065	**0.000000**	**0.000000**	**0.000000**	0.726615	96.648140	9.340534
topK_5_pos	0.459405	**0.000000**	**0.000000**	0.032258	0.949973	97.164145	7.380256
pos_thresh_50	0.094939	**3.225806**	**2.453978**	0.064516	0.996303	94.886048	4.380559
topK_50	0.673850	**0.000000**	**0.000000**	**0.000000**	0.500000	**98.512321**	9.682342
pos_thresh_25	0.397285	**0.000000**	**0.000000**	0.032258	0.953419	97.087541	7.191464
bin	**0.674056**	**0.000000**	**0.000000**	**0.000000**	0.486790	98.427281	9.708335
minmax	0.660356	**0.000000**	**0.000000**	0.032258	0.071041	94.842871	10.366376
topK_5	0.459405	**0.000000**	**0.000000**	0.032258	0.949973	97.164145	7.380256
topK_30	0.656034	**0.000000**	**0.000000**	**0.000000**	0.700006	98.393957	9.171496
sigmoid	0.519548	**0.000000**	**0.000000**	**0.193548**	0.001829	79.189383	10.375480
sigmoid_pos	0.520102	**0.000000**	**0.000000**	**0.193548**	**0.000934**	**78.989614**	**10.375486**
pos_thresh_75	**-0.006999**	**0.000000**	**0.000000**	0.064516	**0.998926**	94.437635	**1.952701**

STFT model clean - correct

In [27]:
```
display_experiment_results(experiment_results_true["cnn14_logstft"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.866410**	**23.076923**	0.005975	**0.522436**	0.243587	**47.617132**	5.165147
topK_30_pos	0.838020	0.320513	0.021971	0.025641	0.699991	96.748331	10.091336
minmax_pos	0.851297	0.320513	0.040220	0.035256	0.781553	95.607656	10.009095
topK_5_pos	0.645838	**0.000000**	**0.000000**	0.032051	0.949986	96.687431	8.299783
pos_thresh_50	0.024674	0.320513	0.126726	0.032051	**0.999011**	96.979126	3.704649
topK_50	0.853125	**0.000000**	**0.000000**	0.025641	0.499994	96.306254	10.602145
pos_thresh_25	0.208138	0.320513	0.027461	0.041667	0.991009	95.790497	6.354969
bin	0.852824	**0.000000**	**0.000000**	0.025641	0.500341	96.340087	10.601417
minmax	0.848556	8.333333	**5.496692**	0.375000	0.038378	65.436223	11.291996
topK_5	0.645838	**0.000000**	**0.000000**	0.032051	0.949986	96.687431	8.299783
topK_30	0.838020	0.320513	0.021971	0.025641	0.699991	96.748331	10.091336
sigmoid	0.678716	1.923077	0.405324	0.237179	0.000143	77.096148	11.295279
sigmoid_pos	0.676643	1.282051	0.318949	0.230769	**0.000071**	77.316157	**11.295279**
pos_thresh_75	**0.004874**	**0.000000**	**0.000000**	**0.012821**	0.997840	**97.719374**	**1.658670**

In [28]:
```
display_experiment_results(experiment_results_true["cnn14_logstft"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.777537**	**19.871795**	0.229193	**0.695513**	0.237154	**31.839248**	**5.029267**
topK_30_pos	0.595320	11.217949	0.278986	0.522436	0.462153	51.317862	6.662939
minmax_pos	0.337147	**0.000000**	**0.000000**	0.108974	0.618447	90.444478	9.652124
topK_5_pos	0.171753	2.884615	0.090336	0.125000	0.873857	88.456219	7.634906
pos_thresh_50	0.282332	0.320513	0.266477	0.128205	0.777214	88.956253	8.771847
topK_50	0.621205	3.205128	**1.196029**	0.487179	0.499942	56.961889	10.602248
pos_thresh_25	0.427319	2.243590	0.799062	0.317308	0.609433	71.119206	9.441525
bin	0.510301	8.333333	1.021901	0.570513	0.452114	49.831371	8.809130
minmax	0.596390	0.961538	0.061781	0.307692	0.302406	73.576446	11.132307
topK_5	0.113153	0.320513	0.089875	**0.044872**	**0.949976**	**96.207448**	8.299984
topK_30	0.438769	1.282051	0.498345	0.314103	0.699965	74.868409	10.091423
sigmoid	0.669625	0.961538	0.350609	0.221154	0.015088	77.747405	**11.294846**
sigmoid_pos	0.681240	1.602564	0.399147	0.240385	**0.008154**	76.818045	10.752045
pos_thresh_75	**0.098543**	**0.000000**	**0.000000**	0.060897	0.900662	95.369548	7.564874

In [29]:
```
display_experiment_results(experiment_results_true["cnn14_logstft"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.820985	14.743590	8.545982	0.480769	0.478677	52.940057	10.309938
topK_30_pos	0.736093	9.935897	5.415430	0.387821	0.691284	64.147520	10.119697
minmax_pos	0.667119	0.320513	0.161871	0.201923	0.618132	83.047502	10.538618
topK_5_pos	0.234263	0.320513	0.047517	0.153846	0.936504	89.609440	8.528447
pos_thresh_50	0.442875	0.641026	0.260263	0.205128	0.866237	82.786573	9.126111
topK_50	0.820781	14.423077	8.748141	0.461538	0.492917	54.483909	10.616132
pos_thresh_25	0.720153	5.769231	2.569530	0.381410	0.695557	65.453288	9.991215
bin	**0.851323**	**25.000000**	**14.120740**	**0.743590**	0.263509	**27.553832**	10.974227
minmax	0.728708	1.602564	0.830314	0.266026	0.322588	75.729636	11.094671
topK_5	0.234263	0.320513	0.047517	0.153846	0.936504	89.609440	8.528447
topK_30	0.736093	9.935897	5.415430	0.387821	0.691284	64.147520	10.119697
sigmoid	0.683605	1.923077	0.575819	0.256410	0.008031	75.853481	11.295088
sigmoid_pos	0.684606	1.923077	0.576094	0.259615	**0.006891**	75.802744	**11.295113**
pos_thresh_75	**0.205615**	**0.000000**	**0.000000**	**0.137821**	**0.941227**	**90.321264**	**8.300359**

In [30]:
```
display_experiment_results(experiment_results_true["cnn14_logstft"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.866933**	**4.487179**	0.001551	0.128205	0.442302	86.934163	9.378820
topK_30_pos	0.819398	0.320513	0.247118	0.025641	0.699991	97.677298	10.091335
minmax_pos	0.494781	**0.000000**	**0.000000**	0.022436	0.733112	97.260519	10.237796
topK_5_pos	0.476378	**0.000000**	**0.000000**	0.012821	0.949986	97.281144	8.299783
pos_thresh_50	0.045233	0.641026	0.145409	**0.009615**	0.997592	97.714895	4.940612
topK_50	0.860424	**0.000000**	**0.000000**	0.019231	0.499994	97.549073	10.602145
pos_thresh_25	0.342215	**0.000000**	**0.000000**	0.022436	0.963501	97.021458	7.854683
bin	0.859372	**0.000000**	**0.000000**	0.019231	0.491929	97.497676	10.618033
minmax	0.817469	0.641026	**0.473359**	0.089744	0.072855	92.577829	11.285715
topK_5	0.476378	**0.000000**	**0.000000**	0.012821	0.949986	97.281144	8.299783
topK_30	0.819398	0.320513	0.247118	0.025641	0.699991	97.677298	10.091335
sigmoid	0.673724	1.282051	0.249408	0.224359	0.000562	77.652123	11.295279
sigmoid_pos	0.674050	1.282051	0.252940	**0.227564**	**0.000287**	**77.608848**	**11.295279**
pos_thresh_75	**0.000823**	0.320513	0.019716	0.012821	**0.998282**	**97.945914**	**2.146913**

STFT model clean - incorrect

In [31]:
```
display_experiment_results(experiment_results_false["cnn14_logstft"]["saliency_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.583908	**22.727273**	0.004124	**0.488636**	0.255679	**51.062776**	5.421551
topK_30_pos	0.555673	3.409091	3.074615	0.034091	0.699991	96.034585	10.091335
minmax_pos	**0.589837**	4.545455	1.569927	0.079545	0.788735	90.527881	9.957920
topK_5_pos	0.512291	3.409091	2.563749	0.034091	0.949986	95.953828	8.299783
pos_thresh_50	0.054281	1.136364	0.662321	0.022727	**0.998991**	94.915210	3.572095
topK_50	0.573182	2.272727	1.946803	0.022727	0.499994	96.693319	10.602145
pos_thresh_25	0.263098	3.409091	0.452522	0.022727	0.991520	95.260016	6.228787
bin	0.572869	2.272727	1.946081	0.022727	0.500156	**96.717004**	10.601787
minmax	0.573042	15.909091	**9.198908**	0.238636	0.037279	68.900749	11.292055
topK_5	0.512291	3.409091	2.563749	0.034091	0.949986	95.953828	8.299783
topK_30	0.555673	3.409091	3.074615	0.034091	0.699991	96.034585	10.091335
sigmoid	0.518474	4.545455	2.371785	0.079545	0.000139	87.236086	11.295279
sigmoid_pos	0.516426	4.545455	2.282174	0.079545	**0.000069**	87.538718	**11.295279**
pos_thresh_75	**0.011852**	**0.000000**	**0.000000**	**0.011364**	0.997319	95.584470	**1.479476**

In [32]:
```
display_experiment_results(experiment_results_false["cnn14_logstft"]["gradcam_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.536556**	**32.954545**	0.153847	**0.715909**	0.181786	**28.457441**	**3.855386**
topK_30_pos	0.493130	21.590909	0.003256	0.511364	0.365866	47.673087	5.275143
minmax_pos	0.259943	2.272727	0.396112	0.068182	0.580500	91.789716	8.258293
topK_5_pos	0.259700	11.363636	0.001758	0.284091	0.701675	69.969611	6.130902
pos_thresh_50	0.213849	**0.000000**	**0.000000**	0.079545	0.709467	90.350879	7.499469
topK_50	0.461126	6.818182	1.017318	0.250000	0.499914	70.340410	10.602304
pos_thresh_25	0.295892	2.272727	1.634609	0.102273	0.570359	83.827800	8.079797
bin	0.346528	12.500000	1.270307	0.272727	0.449182	69.018344	7.284691
minmax	0.464735	4.545455	**2.155288**	0.102273	0.270846	83.096554	11.163190
topK_5	0.121176	**0.000000**	**0.000000**	0.034091	**0.949966**	**94.738399**	8.300195
topK_30	0.379718	3.409091	1.390894	0.125000	0.699919	83.927825	10.091576
sigmoid	0.511989	4.545455	2.152972	0.079545	0.011027	88.065598	**11.295047**
sigmoid_pos	0.517646	4.545455	2.122050	0.079545	**0.004864**	87.398808	9.626561
pos_thresh_75	**0.112684**	**0.000000**	**0.000000**	**0.011364**	0.805793	94.561818	6.492903

In [33]:
```
display_experiment_results(experiment_results_false["cnn14_logstft"]["lime_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.570147**	18.181818	8.110615	0.306818	0.453334	65.825077	9.772382
topK_30_pos	0.546604	10.227273	4.807168	0.193182	0.692448	76.823457	10.115923
minmax_pos	0.534169	3.409091	1.161817	0.113636	0.633881	89.720842	10.483584
topK_5_pos	0.274115	2.272727	0.446291	0.068182	0.936894	89.257630	8.521819
pos_thresh_50	0.402348	**1.136364**	0.396579	0.102273	0.882629	89.219787	8.983716
topK_50	0.567844	15.909091	9.266890	0.250000	0.492448	71.370830	10.617031
pos_thresh_25	0.527051	4.545455	2.076483	0.136364	0.711236	81.984141	9.922895
bin	0.566931	**25.000000**	**12.316326**	**0.443182**	0.304804	**49.701178**	10.911146
minmax	0.550206	6.818182	4.267909	0.136364	0.266583	84.573532	11.149560
topK_5	0.274115	2.272727	0.446291	0.068182	0.936894	89.257630	8.521819
topK_30	0.546604	10.227273	4.807168	0.193182	0.692448	76.823457	10.115923
sigmoid	0.520852	4.545455	1.889966	0.079545	0.005880	86.885849	11.295182
sigmoid_pos	0.520904	4.545455	1.906818	0.090909	**0.004502**	86.953236	**11.295207**
pos_thresh_75	**0.220393**	**1.136364**	**0.359097**	**0.056818**	**0.950789**	**92.908085**	**8.098558**

In [34]:
```
display_experiment_results(experiment_results_false["cnn14_logstft"]["shap_clean"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.572407	**4.545455**	1.714257	**0.079545**	0.471585	91.785160	9.999750
topK_30_pos	0.567144	1.136364	0.883509	0.034091	0.699991	96.320040	10.091336
minmax_pos	0.315431	1.136364	0.120306	**0.011364**	0.732705	94.697184	10.239613
topK_5_pos	0.333717	1.136364	0.136667	0.034091	0.949986	93.901365	8.299783
pos_thresh_50	0.034276	1.136364	0.254733	**0.011364**	0.997548	96.958296	4.916781
topK_50	**0.573036**	2.272727	1.713703	0.022727	0.499994	**97.463591**	10.602145
pos_thresh_25	0.267528	**0.000000**	**0.000000**	**0.011364**	0.964014	96.967392	7.836574
bin	0.572844	2.272727	1.710104	0.022727	0.489782	97.454075	10.622260
minmax	0.547891	3.409091	1.015579	0.068182	0.072308	92.219805	11.285838
topK_5	0.333717	1.136364	0.136667	0.034091	0.949986	93.901365	8.299783
topK_30	0.567144	1.136364	0.883509	0.034091	0.699991	96.320040	10.091336
sigmoid	0.513875	**4.545455**	**2.194049**	0.068182	0.000593	87.910546	11.295278
sigmoid_pos	0.514036	**4.545455**	2.192349	0.068182	**0.000304**	**87.884218**	**11.295279**
pos_thresh_75	**0.001281**	**0.000000**	**0.000000**	**0.011364**	**0.998327**	96.646716	**2.188823**

Mask experiments clean - mel model

In [35]:
```
display_experiment_results(mask_experiment_results["logmel_cnn14"]["clean"])
```

```
--- topK_50_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.923978	**19.500000**	0.030776	0.652500	**0.176250**	34.762647	**3.413026**
gradcam	**0.620665**	11.250000	0.937880	0.655000	0.376843	38.935879	7.311478
lime	0.827965	13.750000	**5.367577**	**0.755000**	0.460687	**30.268507**	9.411879
shap	**0.927127**	**0.000000**	**0.000000**	**0.017500**	**0.500000**	**98.489148**	**9.682342**

```
--- topK_30_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.924232**	**0.000000**	**0.000000**	**0.015000**	**0.700006**	**98.379270**	9.171496
gradcam	**0.362573**	7.500000	0.592328	0.447500	**0.594134**	60.988887	**7.798657**
lime	0.623068	**10.000000**	**4.776571**	**0.550000**	0.674052	**49.213681**	**9.252109**
shap	0.920322	**0.000000**	**0.000000**	**0.015000**	**0.700006**	98.376756	9.171496

```
--- minmax_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.765674**	0.250000	0.049200	0.087500	**0.789556**	94.029495	**9.025832**
gradcam	**0.431521**	0.750000	0.675450	0.362500	**0.396169**	70.568771	9.305840
lime	0.755739	**3.500000**	**1.596777**	**0.437500**	0.547097	**60.692678**	**9.738116**
shap	0.742942	**0.000000**	**0.000000**	**0.017500**	0.730384	**98.140790**	9.325663

--- topK_5_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.765061**	**0.000000**	**0.000000**	**0.022500**	**0.949973**	**97.663678**	7.380256
gradcam	**0.079036**	**2.500000**	0.000586	0.140000	**0.889484**	88.365241	**6.940669**
lime	0.158620	2.000000	**1.222816**	**0.305000**	0.913671	**72.956990**	**7.874178**
shap	0.644688	**0.000000**	**0.000000**	0.027500	**0.949973**	97.529223	7.380256

--- pos_thresh_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.033590**	**0.250000**	**0.173707**	**0.015000**	**0.998819**	97.721229	**3.123119**
gradcam	0.365905	**4.750000**	**1.725173**	0.460000	**0.539708**	60.330152	8.580231
lime	**0.493181**	3.000000	1.669558	**0.472500**	0.748397	**58.130710**	**8.789097**
shap	0.059366	**0.250000**	0.190183	0.025000	0.996374	**97.753458**	4.424030

--- topK_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.925224	**0.000000**	**0.000000**	0.020000	**0.500000**	98.340200	**9.682342**
gradcam	**0.525057**	4.250000	2.337507	0.550000	0.499072	50.483148	9.684185
lime	0.826212	**13.750000**	**6.091994**	**0.747500**	**0.475981**	**30.978062**	**9.728370**
shap	**0.927127**	**0.000000**	**0.000000**	**0.017500**	**0.500000**	**98.489148**	**9.682342**

--- pos_thresh_25 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.267537**	0.500000	0.339988	0.022500	**0.990411**	97.134056	**5.498956**
gradcam	0.599441	**12.250000**	2.856096	0.682500	**0.347645**	37.203954	7.528248
lime	**0.801759**	9.500000	**4.611255**	**0.702500**	0.562260	**34.795579**	**9.407741**
shap	0.514174	**0.000000**	**0.000000**	**0.020000**	0.955756	**97.999605**	7.109134

--- bin ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.925166	**0.000000**	**0.000000**	0.020000	**0.501420**	98.346021	9.679453
gradcam	**0.719301**	21.500000	2.344471	0.782500	**0.195540**	24.415372	**4.918489**
lime	0.900067	**29.250000**	**12.582630**	**0.932500**	0.198701	**8.220830**	9.588828
shap	**0.927023**	**0.000000**	**0.000000**	**0.015000**	0.488779	**98.448436**	**9.704492**

--- minmax ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.865298	3.750000	**3.182013**	0.272500	**0.038222**	77.518508	**10.372004**
gradcam	**0.513954**	1.250000	0.772345	0.392500	0.335306	66.666616	10.150722
lime	0.788149	**4.250000**	2.253361	**0.487500**	**0.392208**	**56.334667**	**10.071627**
shap	**0.896360**	**0.000000**	**0.000000**	**0.080000**	0.069193	**93.938898**	10.366691

--- topK_5 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.765061**	**0.000000**	**0.000000**	**0.022500**	**0.949973**	**97.663678**	**7.380256**
gradcam	**0.030442**	**0.000000**	**0.000000**	0.095000	0.948799	93.796811	7.403085
lime	0.158620	**2.000000**	**1.222816**	**0.305000**	**0.913671**	**72.956990**	**7.874178**
shap	0.644688	**0.000000**	**0.000000**	0.027500	**0.949973**	97.529223	**7.380256**

--- topK_30 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.924232**	**0.000000**	**0.000000**	**0.015000**	**0.700006**	**98.379270**	**9.171496**
gradcam	**0.273740**	2.000000	0.822263	0.355000	0.698777	71.296085	9.175542
lime	0.623068	**10.000000**	**4.776571**	**0.550000**	**0.674052**	**49.213681**	**9.252109**
shap	0.920322	**0.000000**	**0.000000**	**0.015000**	**0.700006**	98.376756	**9.171496**

--- sigmoid ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.494280	**3.500000**	**1.587410**	**0.705000**	**0.000435**	**38.660613**	**10.375489**
gradcam	**0.503141**	2.000000	0.972663	0.677500	**0.026292**	41.577628	**10.373997**
lime	0.497468	2.000000	0.959788	0.677500	0.014293	42.361412	10.374873
shap	**0.411536**	**1.750000**	**0.706118**	**0.635000**	0.001600	**45.858975**	10.375483

--- sigmoid_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.459920	2.500000	1.172303	**0.677500**	**0.000218**	41.394705	**10.375489**
gradcam	**0.509001**	**2.750000**	**1.287837**	0.672500	**0.021328**	**41.110658**	**9.803656**
lime	0.496658	**2.000000**	0.966856	0.675000	0.013022	42.472529	10.374929
shap	**0.413540**	**2.000000**	**0.717578**	**0.632500**	0.000816	**45.765689**	10.375487

--- pos_thresh_75 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.004059	**0.000000**	**0.000000**	0.032500	0.998683	97.390892	**1.327483**
gradcam	0.158462	0.250000	0.220969	0.220000	**0.782444**	83.858354	7.872584
lime	**0.238357**	**3.250000**	**1.655698**	**0.350000**	0.861851	**68.144398**	**8.185629**
shap	**0.000943**	**0.000000**	**0.000000**	**0.027500**	**0.998980**	**97.767957**	1.983555

Mask experiments - stft model

In [36]:
```
display_experiment_results(mask_experiment_results["cnn14_logstft"]["clean"])
```

--- topK_50_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.804260**	**23.000000**	**0.005567**	0.515000	0.246247	48.375174	5.221556
gradcam	**0.724521**	22.750000	0.212617	**0.700000**	**0.224973**	**31.095250**	**4.771013**
lime	0.765800	15.500000	**8.450201**	0.442500	**0.473102**	55.774762	**10.191675**
shap	0.802138	**4.500000**	0.378346	**0.117500**	0.448744	**88.001383**	9.515425

--- topK_30_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.775904**	1.000000	0.693553	**0.027500**	**0.699991**	96.591307	10.091336
gradcam	**0.572838**	**13.500000**	**0.218326**	**0.520000**	**0.440970**	**50.516011**	**6.357624**
lime	0.694406	10.000000	**5.281612**	0.345000	0.691540	66.936226	**10.118867**
shap	0.763902	**0.500000**	0.387124	**0.027500**	**0.699991**	**97.378701**	10.091336

--- minmax_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.793775**	**1.250000**	0.376756	0.045000	**0.783133**	94.490105	9.997836
gradcam	**0.320162**	0.500000	0.087145	0.100000	**0.610099**	90.740430	**9.345481**
lime	0.637870	1.000000	**0.381859**	**0.182500**	0.621597	**84.515637**	**10.526510**
shap	0.455324	**0.250000**	**0.026467**	**0.020000**	0.733023	**96.696586**	10.238195

--- topK_5_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.616458**	0.750000	**0.564025**	0.032500	**0.949986**	96.526038	8.299783
gradcam	**0.191101**	**4.750000**	0.070849	**0.160000**	**0.835977**	**84.389165**	**7.304025**
lime	0.243031	0.750000	0.135247	0.135000	0.936590	89.532042	**8.526989**
shap	0.444992	**0.250000**	**0.030067**	**0.017500**	**0.949986**	**96.537593**	8.299783

--- pos_thresh_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.031187**	0.500000	0.244557	0.030000	**0.999007**	96.525065	**3.675487**
gradcam	0.267266	**0.250000**	0.207852	0.117500	**0.762309**	89.263071	8.491924
lime	**0.433959**	**0.750000**	**0.290252**	**0.182500**	0.869844	**84.201880**	**9.094784**
shap	0.042822	**0.750000**	**0.169460**	**0.010000**	0.997583	**97.548443**	4.935369

--- topK_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.791538	**0.500000**	0.428297	0.025000	**0.499994**	96.391408	**10.602145**
gradcam	**0.585988**	4.000000	1.156712	**0.435000**	0.499936	59.905164	10.602260
lime	0.765135	**14.750000**	**8.862266**	0.415000	**0.492814**	**58.199032**	**10.616330**
shap	**0.797199**	**0.500000**	**0.377015**	**0.020000**	**0.499994**	**97.530267**	10.602145

--- pos_thresh_25 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.220229**	1.000000	0.120974	0.037500	**0.991122**	95.673791	**6.327209**
gradcam	0.398405	2.250000	0.982882	0.270000	**0.600836**	73.915097	9.141945
lime	**0.677671**	**5.500000**	**2.461060**	**0.327500**	0.699007	**69.090076**	**9.976185**
shap	0.325784	**0.000000**	**0.000000**	**0.020000**	0.963614	**97.009564**	7.850699

--- bin ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.791234	**0.500000**	0.428138	0.025000	**0.500300**	96.423009	10.601499
gradcam	**0.474271**	9.250000	1.076550	0.505000	0.451469	54.052505	**8.473753**
lime	0.788757	**25.000000**	**13.723769**	**0.677500**	**0.272594**	**32.426248**	**10.960349**
shap	**0.796336**	**0.500000**	**0.376223**	**0.020000**	0.491457	**97.488084**	10.618963

--- minmax ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.787943**	**10.000000**	**6.311180**	**0.345000**	**0.038136**	**66.198419**	**11.292009**
gradcam	**0.567426**	1.750000	**0.522353**	0.262500	0.295463	75.670870	11.139101
lime	0.689437	2.750000	1.586585	0.237500	**0.310267**	77.675293	**11.106747**
shap	0.758162	**1.250000**	0.592648	**0.085000**	0.072735	**92.499063**	11.285742

--- topK_5 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.616458**	**0.750000**	**0.564025**	0.032500	**0.949986**	96.526038	**8.299783**
gradcam	**0.114918**	**0.250000**	0.070103	0.042500	0.949974	95.884257	8.300031
lime	0.243031	**0.750000**	0.135247	**0.135000**	**0.936590**	**89.532042**	**8.526989**
shap	0.444992	**0.250000**	**0.030067**	**0.017500**	**0.949986**	**96.537593**	8.299783

--- topK_30 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.775904**	1.000000	0.693553	**0.027500**	**0.699991**	96.591307	**10.091336**
gradcam	**0.425778**	1.750000	0.694706	0.272500	0.699955	76.861480	10.091457
lime	0.694406	**10.000000**	**5.281612**	**0.345000**	**0.691540**	**66.936226**	**10.118867**
shap	0.763902	**0.500000**	**0.387124**	**0.027500**	**0.699991**	**97.378701**	**10.091336**

--- sigmoid ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.643463	**2.500000**	0.837945	0.202500	**0.000142**	79.326934	**11.295279**
gradcam	**0.634945**	**1.750000**	0.747129	**0.190000**	**0.014195**	**80.017408**	**11.294890**
lime	**0.647799**	**2.500000**	**0.864931**	**0.217500**	0.007558	**78.280602**	11.295109
shap	0.638557	2.000000	**0.677229**	**0.190000**	0.000569	79.908976	11.295279

```
--- sigmoid_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.641395	**2.000000**	0.750859	0.197500	**0.000071**	79.565120	**11.295279**
gradcam	0.645249	2.250000	0.778186	0.205000	**0.007431**	79.145813	**10.504438**
lime	**0.648592**	**2.500000**	**0.868853**	**0.222500**	0.006366	**78.255852**	11.295133
shap	**0.638847**	**2.000000**	**0.679610**	**0.192500**	0.000291	**79.869429**	11.295279

```
--- pos_thresh_75 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.006409	**0.000000**	**0.000000**	**0.012500**	0.997725	97.249695	**1.619247**
gradcam	0.101654	**0.000000**	**0.000000**	0.050000	**0.879791**	95.191847	7.329040
lime	**0.208866**	**0.250000**	**0.079001**	**0.120000**	0.943331	**90.890364**	**8.255963**
shap	**0.000924**	**0.250000**	0.015379	**0.012500**	**0.998292**	**97.660090**	2.156133

Noisy experiments - mel model

In [37]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["saliency_white"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.711187	**33.500000**	0.008936	**0.740000**	0.130000	**25.823075**	2.517409
topK_30_pos	**0.713260**	0.500000	0.167238	0.022500	0.700006	97.713266	9.171496
minmax_pos	0.692836	0.500000	0.218395	0.097500	0.783585	92.282427	9.085012
topK_5_pos	0.684671	0.250000	0.000489	**0.007500**	0.949973	**98.096582**	7.380256
pos_thresh_50	0.124813	0.500000	0.231756	0.030000	**0.998951**	96.144690	2.895157
topK_50	0.711844	0.500000	0.152851	0.022500	0.500000	97.705562	9.682342
pos_thresh_25	0.401641	0.500000	0.373531	0.017500	0.992541	97.025918	5.222511
bin	0.711797	0.500000	0.154952	0.022500	0.502741	97.699524	9.676811
minmax	0.696040	4.750000	3.091045	0.100000	0.035331	89.111772	10.372436
topK_5	0.684671	0.250000	0.000489	**0.007500**	0.949973	**98.096582**	7.380256
topK_30	**0.713260**	0.500000	0.167238	0.022500	0.700006	97.713266	9.171496
sigmoid	0.551305	8.500000	**4.459896**	0.475000	0.000461	59.525578	10.375489
sigmoid_pos	0.522588	7.750000	3.455112	0.437500	**0.000231**	62.839069	**10.375489**
pos_thresh_75	**0.036789**	**0.000000**	**0.000000**	0.040000	0.998531	96.320461	**1.172918**

In [38]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["saliency_room"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.850203	**27.500000**	0.012627	**0.702500**	0.148750	**29.305257**	2.880497
topK_30_pos	0.850450	**0.000000**	**0.000000**	**0.012500**	0.700006	98.049265	9.171496
minmax_pos	0.792559	0.500000	0.203990	0.082500	0.776979	94.064579	9.124298
topK_5_pos	0.767658	**0.000000**	**0.000000**	0.017500	0.949973	97.447247	7.380256
pos_thresh_50	0.084090	0.500000	0.139204	0.017500	**0.998847**	97.229904	3.085727
topK_50	0.850926	**0.000000**	**0.000000**	**0.012500**	0.500000	**98.101977**	9.682342
pos_thresh_25	0.387386	0.750000	0.322935	0.025000	0.990745	96.956076	5.463568
bin	**0.850942**	**0.000000**	**0.000000**	**0.012500**	0.501831	98.092801	9.678648
minmax	0.824409	3.500000	2.288219	0.120000	0.038916	88.186978	10.371979
topK_5	0.767658	**0.000000**	**0.000000**	0.017500	0.949973	97.447247	7.380256
topK_30	0.850450	**0.000000**	**0.000000**	**0.012500**	0.700006	98.049265	9.171496
sigmoid	0.596854	6.000000	**3.486621**	0.572500	0.000517	51.145875	10.375488
sigmoid_pos	0.560614	4.750000	2.692710	0.545000	**0.000259**	54.839926	**10.375489**
pos_thresh_75	**0.022937**	**0.000000**	**0.000000**	0.025000	0.998625	97.008971	**1.283964**

In [39]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["saliency_horse"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.790265**	**23.000000**	0.013285	0.490000	0.256250	**49.703418**	4.962200
topK_30_pos	0.788512	**0.000000**	**0.000000**	**0.002500**	0.700006	97.261679	9.171496
minmax_pos	0.769097	0.250000	0.228000	0.067500	0.774741	92.015486	9.143423
topK_5_pos	0.694687	0.500000	0.144353	0.012500	0.949973	95.896013	7.380256
pos_thresh_50	0.107345	0.500000	0.187773	0.007500	0.998754	**97.551229**	3.272936
topK_50	0.789462	**0.000000**	**0.000000**	**0.002500**	0.500000	96.983037	9.682342
pos_thresh_25	0.384352	1.000000	0.495883	0.010000	0.989098	97.488239	5.682150
bin	0.789513	**0.000000**	**0.000000**	**0.002500**	0.499980	96.973540	9.682366
minmax	0.774537	10.750000	**7.420244**	0.275000	0.040467	72.473431	10.371812
topK_5	0.694687	0.500000	0.144353	0.012500	0.949973	95.896013	7.380256
topK_30	0.788512	**0.000000**	**0.000000**	**0.002500**	0.700006	97.261679	9.171496
sigmoid	0.611034	3.500000	1.998115	**0.557500**	0.000539	56.133637	10.375488
sigmoid_pos	0.575932	3.000000	1.418633	0.512500	**0.000270**	61.364873	**10.375489**
pos_thresh_75	**0.021472**	**0.000000**	**0.000000**	0.012500	**0.998810**	96.992911	**1.436226**

In [40]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["gradcam_white"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.614136**	**20.250000**	0.893746	**0.607500**	0.279487	**41.206521**	5.423134
topK_30_pos	0.505541	14.750000	0.745458	0.435000	0.471790	56.855287	6.193129
minmax_pos	0.410146	1.750000	0.942405	0.162500	0.455976	86.221599	8.168055
topK_5_pos	0.216855	7.000000	**0.001045**	0.222500	0.785255	78.898717	6.123648
pos_thresh_50	0.367086	6.000000	1.885612	0.240000	0.578786	77.713635	7.441431
topK_50	0.552455	5.500000	2.573893	0.295000	0.499046	72.596259	9.684244
pos_thresh_25	0.468688	10.250000	2.453414	0.367500	0.425916	64.554318	6.746623
bin	0.525461	17.500000	**2.581020**	0.512500	0.291756	49.678478	**5.421575**
minmax	0.545315	1.750000	1.097447	0.205000	0.346016	81.677592	10.148300
topK_5	**0.135258**	**0.250000**	0.061111	**0.072500**	**0.948942**	**94.265772**	7.400324
topK_30	0.424544	2.500000	1.225035	0.162500	0.698856	83.821378	9.175311
sigmoid	0.514553	5.250000	1.909778	0.372500	0.021902	67.792329	**10.374392**
sigmoid_pos	0.523629	5.500000	2.505811	0.380000	**0.014241**	66.113705	8.922229
pos_thresh_75	0.221672	0.500000	0.140789	0.100000	0.744493	91.608840	6.855313

In [41]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["gradcam_room"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.668335**	17.250000	1.008166	0.617500	0.328214	42.260622	6.367208
topK_30_pos	0.486541	10.500000	0.239852	0.420000	0.531212	61.049522	6.972964
minmax_pos	0.423235	0.500000	0.199748	0.227500	0.443651	82.143535	8.833017
topK_5_pos	0.146298	4.250000	0.001370	0.157500	0.846877	85.612666	6.605827
pos_thresh_50	0.359791	2.500000	0.887836	0.307500	0.578761	74.486631	8.102020
topK_50	0.595904	5.000000	2.359680	0.420000	0.499191	62.660099	9.683955
pos_thresh_25	0.527990	11.500000	**3.756792**	0.525000	0.397862	52.363291	7.450421
bin	0.624240	**17.750000**	2.535232	**0.640000**	0.262654	**37.189112**	**5.514689**
minmax	0.553310	1.250000	0.567462	0.272500	0.331609	76.075949	10.168407
topK_5	**0.077974**	**0.000000**	**0.000000**	**0.060000**	**0.948871**	**95.577794**	7.401692
topK_30	0.382163	2.000000	0.734136	0.252500	0.698899	78.883797	9.175169
sigmoid	0.558448	3.000000	1.595127	0.535000	0.023322	57.189180	**10.374343**
sigmoid_pos	0.565595	3.500000	1.996462	0.542500	**0.016902**	56.205281	9.492769
pos_thresh_75	0.182925	**0.000000**	**0.000000**	0.135000	0.779125	89.180259	7.443592

In [42]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["gradcam_horse"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.668792**	**17.750000**	0.868279	0.530000	0.343064	50.479869	**6.657979**
topK_30_pos	0.460496	9.500000	**0.002530**	0.292500	0.573245	72.849382	7.523147
minmax_pos	0.503930	0.750000	0.082838	0.147500	0.489150	88.137385	9.194560
topK_5_pos	0.120128	4.000000	0.023954	0.102500	0.882598	89.776911	6.880740
pos_thresh_50	0.449661	1.750000	0.535797	0.235000	0.606163	79.931454	8.681950
topK_50	0.612748	3.500000	1.867875	0.312500	0.499043	71.584586	9.684249
pos_thresh_25	0.575871	8.000000	1.853760	0.442500	0.437850	59.268579	8.633621
bin	0.646689	15.000000	**2.474192**	**0.597500**	0.311810	**42.436289**	6.832786
minmax	0.665808	2.250000	0.613855	0.255000	0.302358	78.459776	10.195316
topK_5	**0.093496**	**0.500000**	0.046791	**0.037500**	**0.948991**	**96.103175**	7.399400
topK_30	0.393761	**0.500000**	0.112459	0.147500	0.699028	87.297876	9.174741
sigmoid	0.586634	1.000000	0.269063	0.445000	0.045041	66.064125	**10.371285**
sigmoid_pos	0.594604	2.250000	0.590318	0.470000	**0.024387**	63.591157	9.907195
pos_thresh_75	0.252305	**0.500000**	0.203256	0.075000	0.799362	92.993515	7.877263

In [43]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["lime_white"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.661313	16.000000	5.634841	0.500000	0.436864	50.420390	9.111391
topK_30_pos	0.579215	10.250000	4.118605	0.360000	0.652824	64.582763	9.145879
minmax_pos	0.640139	5.500000	2.943990	0.292500	0.518476	72.855762	9.778432
topK_5_pos	**0.287501**	**2.500000**	**0.941833**	**0.165000**	**0.905188**	**83.750481**	**7.976897**
pos_thresh_50	0.543763	8.250000	4.268574	0.325000	0.710520	67.539896	8.939172
topK_50	0.662247	13.750000	6.180197	0.472500	0.466966	53.109267	9.745278
pos_thresh_25	0.655500	17.500000	8.751325	0.552500	0.506206	44.721665	9.431775
bin	**0.698807**	**33.000000**	**9.173222**	**0.802500**	0.187839	**19.662564**	8.035213
minmax	0.650653	7.500000	3.857558	0.312500	0.404169	70.803649	10.041011
topK_5	**0.287501**	**2.500000**	**0.941833**	**0.165000**	**0.905188**	**83.750481**	**7.976897**
topK_30	0.579628	9.750000	4.344005	0.355000	0.662899	65.144924	9.284801
sigmoid	0.557128	8.000000	3.849324	0.400000	0.015987	65.894878	10.374765
sigmoid_pos	0.555825	7.750000	3.768270	0.397500	**0.014469**	65.821870	**10.374838**
pos_thresh_75	0.408775	5.250000	2.258470	0.232500	0.833223	77.525328	8.406193

In [44]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["lime_room"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.798785	9.500000	3.636989	0.525000	0.464438	49.644509	9.458127
topK_30_pos	0.676898	6.500000	2.843740	0.387500	0.673583	64.811349	9.253550
minmax_pos	0.756595	**2.000000**	0.992075	0.265000	0.571562	78.168436	9.702441
topK_5_pos	**0.266324**	**2.000000**	1.102891	**0.170000**	**0.917428**	**84.912562**	**7.843242**
pos_thresh_50	0.545840	5.000000	2.517829	0.305000	0.778948	73.029173	8.678135
topK_50	0.799169	9.250000	4.255971	0.515000	0.477797	50.872538	9.725150
pos_thresh_25	0.765986	11.000000	4.545312	0.495000	0.598970	53.206029	9.283331
bin	**0.834635**	**23.500000**	**10.195292**	**0.822500**	0.209794	**21.226862**	9.733310
minmax	0.772831	2.500000	**0.968496**	0.272500	0.402202	75.515457	10.056722
topK_5	**0.266324**	**2.000000**	1.102891	**0.170000**	**0.917428**	**84.912562**	**7.843242**
topK_30	0.676898	6.500000	2.843740	0.387500	0.673583	64.811349	9.253550
sigmoid	0.598789	3.250000	1.933977	0.502500	0.015792	56.987103	10.374777
sigmoid_pos	0.596873	3.250000	1.912635	0.505000	**0.014284**	57.143269	**10.374840**
pos_thresh_75	0.332176	2.250000	1.468688	0.197500	0.879987	81.625652	8.072819

In [45]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["lime_horse"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.766223	21.750000	10.250147	0.660000	0.442753	37.849872	9.047391
topK_30_pos	0.661359	15.500000	9.220467	0.412500	0.673541	59.308304	9.225868
minmax_pos	0.699449	6.750000	4.137273	0.265000	0.604778	75.024040	9.632975
topK_5_pos	**0.271864**	4.500000	2.608547	**0.197500**	**0.916628**	**82.962081**	**7.847131**
pos_thresh_50	0.527356	10.500000	7.369041	0.315000	0.790181	70.759820	8.655861
topK_50	0.762015	22.250000	12.026947	0.642500	0.476035	39.537862	9.728469
pos_thresh_25	0.701000	15.500000	10.393404	0.512500	0.628288	50.697775	9.277334
bin	**0.780829**	**39.250000**	**20.442444**	**0.832500**	0.289847	**16.629332**	9.857504
minmax	0.729969	9.500000	5.794292	0.385000	0.369308	65.290681	10.105218
topK_5	**0.271864**	4.500000	2.608547	**0.197500**	**0.916628**	**82.962081**	**7.847131**
topK_30	0.661405	15.250000	9.220464	0.410000	0.675266	59.548510	9.248880
sigmoid	0.600338	4.000000	1.717499	0.497500	0.018715	61.661336	10.374649
sigmoid_pos	0.599717	**2.750000**	**1.427913**	0.482500	**0.015105**	62.475879	**10.374842**
pos_thresh_75	0.334971	5.500000	3.827674	0.230000	0.889490	80.522536	8.001323

In [46]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["shap_white"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.711886	0.750000	0.244812	0.022500	0.500000	97.824995	9.682342
topK_30_pos	**0.712044**	0.750000	0.239618	0.022500	0.700006	**97.841799**	9.171496
minmax_pos	0.703274	0.250000	0.133555	0.012500	0.721409	97.693956	9.358230
topK_5_pos	0.697975	0.250000	0.142618	0.010000	0.949973	97.190341	7.380256
pos_thresh_50	0.153006	1.000000	0.414754	0.037500	0.996067	96.786615	4.462922
topK_50	0.711886	0.750000	0.244812	0.022500	0.500000	97.824995	9.682342
pos_thresh_25	0.672602	**0.000000**	**0.000000**	**0.007500**	0.949855	97.280215	7.272439
bin	0.711988	0.750000	0.248318	0.022500	0.488620	97.833368	9.704824
minmax	0.707670	**0.000000**	**0.000000**	0.017500	0.081259	97.210593	10.363955
topK_5	0.697975	0.250000	0.142618	0.010000	0.949973	97.190341	7.380256
topK_30	**0.712044**	0.750000	0.239618	0.022500	0.700006	**97.841799**	9.171496
sigmoid	0.479686	**5.000000**	**1.995867**	0.380000	0.001059	69.050237	10.375487
sigmoid_pos	0.479325	**5.000000**	1.981407	**0.382500**	**0.000543**	**68.713834**	**10.375488**
pos_thresh_75	**0.014328**	**0.000000**	**0.000000**	0.035000	**0.998922**	96.935606	**1.893806**

In [47]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["shap_room"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	0.851710	**0.000000**	**0.000000**	0.012500	0.500000	98.118956	9.682342
topK_30_pos	0.848560	**0.000000**	**0.000000**	0.012500	0.700006	98.169940	9.171496
minmax_pos	0.827405	**0.000000**	**0.000000**	0.015000	0.721625	**98.417334**	9.356942
topK_5_pos	0.824963	**0.000000**	**0.000000**	0.020000	0.949973	97.573138	7.380256
pos_thresh_50	0.094348	**0.000000**	**0.000000**	0.015000	0.996874	97.482746	4.248236
topK_50	0.851710	**0.000000**	**0.000000**	0.012500	0.500000	98.118956	9.682342
pos_thresh_25	0.736989	**0.000000**	**0.000000**	**0.002500**	0.957153	98.339164	7.097328
bin	**0.851765**	**0.000000**	**0.000000**	0.012500	0.486988	98.107973	9.707996
minmax	0.844405	**0.000000**	**0.000000**	0.032500	0.066837	97.179111	10.367339
topK_5	0.824963	**0.000000**	**0.000000**	0.020000	0.949973	97.573138	7.380256
topK_30	0.848560	**0.000000**	**0.000000**	0.012500	0.700006	98.169940	9.171496
sigmoid	0.506168	3.000000	1.742611	**0.487500**	0.001007	61.329066	10.375487
sigmoid_pos	0.507646	**3.250000**	**1.760529**	**0.487500**	**0.000519**	**61.118210**	**10.375489**
pos_thresh_75	**0.002504**	**0.000000**	**0.000000**	0.017500	**0.998952**	97.195304	**1.867501**

In [48]:
```
display_experiment_results(experiment_results["logmel_cnn14"]["shap_horse"])
```

	FF	AI	AG	FidIn	SPS	AD	COMP
topK_50_pos	**0.790700**	0.250000	0.000021	0.005000	0.498750	96.701160	9.658136
topK_30_pos	0.783315	**0.000000**	**0.000000**	0.005000	0.700006	97.136170	9.171496
minmax_pos	0.753472	**0.000000**	**0.000000**	0.007500	0.727941	97.820484	9.333287
topK_5_pos	0.731783	0.500000	0.035988	0.022500	0.949973	95.778565	7.380256
pos_thresh_50	0.105709	0.500000	0.183895	0.017500	0.996972	**97.933361**	4.249546
topK_50	0.790346	**0.000000**	**0.000000**	**0.002500**	0.500000	96.830021	9.682342
pos_thresh_25	0.566565	0.250000	0.056373	0.025000	0.961684	96.388969	6.980273
bin	0.790179	**0.000000**	**0.000000**	0.005000	0.488257	96.767062	9.705524
minmax	0.788617	0.500000	0.111174	0.017500	0.067695	97.039395	10.367169
topK_5	0.731783	0.500000	0.035988	0.022500	0.949973	95.778565	7.380256
topK_30	0.783315	**0.000000**	**0.000000**	0.005000	0.700006	97.136170	9.171496
sigmoid	0.524776	**2.000000**	0.651637	0.415000	0.001090	68.324909	10.375487
sigmoid_pos	0.526671	**2.000000**	**0.656936**	**0.422500**	**0.000559**	**68.180311**	**10.375488**
pos_thresh_75	**0.003823**	**0.000000**	**0.000000**	0.020000	**0.998917**	97.433493	**1.839846**

Noisy experiments per mask - mel model

In [49]:
```
display_experiment_results(mask_experiment_results["logmel_cnn14"]["white"])
```

```
--- topK_50_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.711187	**33.500000**	**0.008936**	**0.740000**	**0.130000**	**25.823075**	**2.517409**
gradcam	**0.614136**	20.250000	0.893746	0.607500	0.279487	41.206521	5.423134
lime	0.661313	16.000000	**5.634841**	0.500000	0.436864	50.420390	9.111391
shap	**0.711886**	**0.750000**	0.244812	**0.022500**	**0.500000**	**97.824995**	**9.682342**

```
--- topK_30_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.713260**	**0.500000**	**0.167238**	**0.022500**	0.700006	97.713266	**9.171496**
gradcam	**0.505541**	**14.750000**	0.745458	**0.435000**	**0.471790**	**56.855287**	**6.193129**
lime	0.579215	10.250000	**4.118605**	0.360000	0.652824	64.582763	9.145879
shap	0.712044	0.750000	0.239618	**0.022500**	**0.700006**	**97.841799**	9.171496

```
--- minmax_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.692836	0.500000	0.218395	0.097500	**0.783585**	92.282427	9.085012
gradcam	**0.410146**	1.750000	0.942405	0.162500	**0.455976**	86.221599	**8.168055**
lime	0.640139	**5.500000**	**2.943990**	**0.292500**	0.518476	**72.855762**	**9.778432**
shap	**0.703274**	**0.250000**	**0.133555**	**0.012500**	0.721409	**97.693956**	9.358230

```
--- topK_5_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.684671	**0.250000**	**0.000489**	**0.007500**	**0.949973**	**98.096582**	7.380256
gradcam	**0.216855**	**7.000000**	0.001045	**0.222500**	**0.785255**	**78.898717**	**6.123648**
lime	0.287501	2.500000	**0.941833**	0.165000	0.905188	83.750481	**7.976897**
shap	**0.697975**	**0.250000**	0.142618	0.010000	**0.949973**	97.190341	7.380256

```
--- pos_thresh_50 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.124813**	**0.500000**	**0.231756**	**0.030000**	**0.998951**	96.144690	**2.895157**
gradcam	0.367086	6.000000	1.885612	0.240000	**0.578786**	77.713635	7.441431
lime	**0.543763**	**8.250000**	**4.268574**	**0.325000**	0.710520	**67.539896**	**8.939172**
shap	0.153006	1.000000	0.414754	0.037500	0.996067	**96.786615**	4.462922

```
--- topK_50 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.711844	**0.500000**	**0.152851**	**0.022500**	**0.500000**	97.705562	**9.682342**
gradcam	**0.552455**	5.500000	2.573893	0.295000	0.499046	72.596259	9.684244
lime	0.662247	**13.750000**	**6.180197**	**0.472500**	**0.466966**	**53.109267**	**9.745278**
shap	**0.711886**	0.750000	0.244812	**0.022500**	**0.500000**	**97.824995**	**9.682342**

--- pos_thresh_25 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.401641**	0.500000	0.373531	0.017500	**0.992541**	97.025918	**5.222511**
gradcam	0.468688	10.250000	2.453414	0.367500	**0.425916**	64.554318	6.746623
lime	0.655500	**17.500000**	**8.751325**	**0.552500**	0.506206	**44.721665**	**9.431775**
shap	**0.672602**	**0.000000**	**0.000000**	**0.007500**	0.949855	**97.280215**	7.272439

--- bin ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.711797	**0.500000**	**0.154952**	**0.022500**	**0.502741**	97.699524	9.676811
gradcam	**0.525461**	17.500000	2.581020	0.512500	0.291756	49.678478	**5.421575**
lime	0.698807	**33.000000**	**9.173222**	**0.802500**	**0.187839**	**19.662564**	8.035213
shap	**0.711988**	0.750000	0.248318	**0.022500**	0.488620	**97.833368**	**9.704824**

--- minmax ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.696040	4.750000	3.091045	0.100000	**0.035331**	89.111772	**10.372436**
gradcam	**0.545315**	1.750000	1.097447	0.205000	0.346016	81.677592	10.148300
lime	0.650653	**7.500000**	**3.857558**	**0.312500**	**0.404169**	**70.803649**	**10.041011**
shap	**0.707670**	**0.000000**	**0.000000**	**0.017500**	0.081259	**97.210593**	10.363955

--- topK_5 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.684671	**0.250000**	**0.000489**	**0.007500**	**0.949973**	**98.096582**	**7.380256**
gradcam	**0.135258**	**0.250000**	0.061111	0.072500	0.948942	94.265772	7.400324
lime	0.287501	**2.500000**	**0.941833**	**0.165000**	**0.905188**	**83.750481**	**7.976897**
shap	**0.697975**	**0.250000**	0.142618	0.010000	**0.949973**	97.190341	**7.380256**

--- topK_30 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.713260**	**0.500000**	**0.167238**	**0.022500**	0.700006	97.713266	9.171496
gradcam	**0.424544**	2.500000	1.225035	0.162500	0.698856	83.821378	9.175311
lime	0.579628	**9.750000**	**4.344005**	**0.355000**	**0.662899**	**65.144924**	**9.284801**
shap	0.712044	0.750000	0.239618	**0.022500**	**0.700006**	**97.841799**	**9.171496**

--- sigmoid ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.551305	**8.500000**	**4.459896**	**0.475000**	**0.000461**	**59.525578**	**10.375489**
gradcam	0.514553	5.250000	**1.909778**	**0.372500**	**0.021902**	67.792329	**10.374392**
lime	**0.557128**	8.000000	3.849324	0.400000	0.015987	65.894878	10.374765
shap	**0.479686**	**5.000000**	1.995867	0.380000	0.001059	**69.050237**	10.375487

--- sigmoid_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.522588	**7.750000**	3.455112	**0.437500**	**0.000231**	**62.839069**	**10.375489**
gradcam	0.523629	5.500000	2.505811	**0.380000**	0.014241	66.113705	**8.922229**
lime	**0.555825**	**7.750000**	**3.768270**	0.397500	**0.014469**	65.821870	10.374838
shap	**0.479325**	**5.000000**	**1.981407**	0.382500	0.000543	**68.713834**	10.375488

--- pos_thresh_75 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.036789	**0.000000**	**0.000000**	0.040000	0.998531	96.320461	**1.172918**
gradcam	0.221672	0.500000	0.140789	0.100000	**0.744493**	91.608840	6.855313
lime	**0.408775**	**5.250000**	**2.258470**	**0.232500**	0.833223	**77.525328**	**8.406193**
shap	**0.014328**	**0.000000**	**0.000000**	**0.035000**	**0.998922**	**96.935606**	1.893806

In [50]:
```
display_experiment_results(mask_experiment_results["logmel_cnn14"]["room"])
```

```
--- topK_50_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.850203	**27.500000**	0.012627	**0.702500**	**0.148750**	**29.305257**	**2.880497**
gradcam	**0.668335**	17.250000	1.008166	0.617500	0.328214	42.260622	6.367208
lime	0.798785	9.500000	**3.636989**	0.525000	0.464438	49.644509	9.458127
shap	**0.851710**	**0.000000**	**0.000000**	**0.012500**	**0.500000**	**98.118956**	**9.682342**

```
--- topK_30_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.850450**	**0.000000**	**0.000000**	**0.012500**	**0.700006**	98.049265	9.171496
gradcam	**0.486541**	**10.500000**	0.239852	**0.420000**	**0.531212**	**61.049522**	**6.972964**
lime	0.676898	6.500000	**2.843740**	0.387500	0.673583	64.811349	**9.253550**
shap	0.848560	**0.000000**	**0.000000**	**0.012500**	0.700006	**98.169940**	9.171496

```
--- minmax_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.792559	0.500000	0.203990	0.082500	**0.776979**	94.064579	9.124298
gradcam	**0.423235**	0.500000	0.199748	0.227500	**0.443651**	82.143535	**8.833017**
lime	0.756595	**2.000000**	**0.992075**	**0.265000**	0.571562	**78.168436**	**9.702441**
shap	**0.827405**	**0.000000**	**0.000000**	**0.015000**	0.721625	**98.417334**	9.356942

```
--- topK_5_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.767658	**0.000000**	**0.000000**	**0.017500**	**0.949973**	97.447247	7.380256
gradcam	**0.146298**	**4.250000**	0.001370	0.157500	**0.846877**	85.612666	**6.605827**
lime	0.266324	2.000000	**1.102891**	**0.170000**	0.917428	**84.912562**	**7.843242**
shap	**0.824963**	**0.000000**	**0.000000**	0.020000	**0.949973**	**97.573138**	7.380256

```
--- pos_thresh_50 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.084090**	0.500000	0.139204	0.017500	**0.998847**	97.229904	**3.085727**
gradcam	0.359791	2.500000	0.887836	**0.307500**	**0.578761**	74.486631	8.102020
lime	**0.545840**	**5.000000**	**2.517829**	0.305000	0.778948	**73.029173**	**8.678135**
shap	0.094348	**0.000000**	**0.000000**	**0.015000**	0.996874	**97.482746**	4.248236

```
--- topK_50 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.850926	**0.000000**	**0.000000**	**0.012500**	**0.500000**	98.101977	**9.682342**
gradcam	**0.595904**	5.000000	2.359680	0.420000	0.499191	62.660099	9.683955
lime	0.799169	**9.250000**	**4.255971**	**0.515000**	**0.477797**	**50.872538**	**9.725150**
shap	**0.851710**	**0.000000**	**0.000000**	**0.012500**	**0.500000**	**98.118956**	**9.682342**

```
--- pos_thresh_25 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.387386**	0.750000	0.322935	0.025000	**0.990745**	96.956076	**5.463568**
gradcam	0.527990	**11.500000**	3.756792	**0.525000**	**0.397862**	**52.363291**	7.450421
lime	**0.765986**	11.000000	**4.545312**	0.495000	0.598970	53.206029	**9.283331**
shap	0.736989	**0.000000**	**0.000000**	**0.002500**	0.957153	**98.339164**	7.097328

```
--- bin ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.850942	**0.000000**	**0.000000**	**0.012500**	**0.501831**	98.092801	9.678648
gradcam	**0.624240**	17.750000	2.535232	0.640000	0.262654	37.189112	**5.514689**
lime	0.834635	**23.500000**	**10.195292**	**0.822500**	**0.209794**	**21.226862**	**9.733310**
shap	**0.851765**	**0.000000**	**0.000000**	**0.012500**	0.486988	**98.107973**	9.707996

```
--- minmax ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.824409	**3.500000**	**2.288219**	0.120000	**0.038916**	88.186978	**10.371979**
gradcam	**0.553310**	1.250000	0.567462	**0.272500**	0.331609	76.075949	10.168407
lime	0.772831	2.500000	0.968496	**0.272500**	**0.402202**	**75.515457**	**10.056722**
shap	**0.844405**	**0.000000**	**0.000000**	**0.032500**	0.066837	**97.179111**	10.367339

```
--- topK_5 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.767658	**0.000000**	**0.000000**	**0.017500**	**0.949973**	97.447247	**7.380256**
gradcam	**0.077974**	**0.000000**	**0.000000**	0.060000	0.948871	95.577794	7.401692
lime	0.266324	**2.000000**	**1.102891**	**0.170000**	**0.917428**	**84.912562**	**7.843242**
shap	**0.824963**	**0.000000**	**0.000000**	0.020000	**0.949973**	**97.573138**	7.380256

```
--- topK_30 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.850450**	**0.000000**	**0.000000**	**0.012500**	**0.700006**	98.049265	**9.171496**
gradcam	**0.382163**	2.000000	0.734136	0.252500	0.698899	78.883797	9.175169
lime	0.676898	**6.500000**	**2.843740**	**0.387500**	**0.673583**	**64.811349**	**9.253550**
shap	0.848560	**0.000000**	**0.000000**	**0.012500**	0.700006	**98.169940**	9.171496

```
--- sigmoid ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.596854	**6.000000**	**3.486621**	**0.572500**	**0.000517**	**51.145875**	**10.375488**
gradcam	0.558448	**3.000000**	**1.595127**	0.535000	**0.023322**	57.189180	**10.374343**
lime	**0.598789**	3.250000	1.933977	0.502500	0.015792	56.987103	10.374777
shap	**0.506168**	**3.000000**	1.742611	**0.487500**	0.001007	**61.329066**	10.375487

```
--- sigmoid_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.560614	**4.750000**	**2.692710**	**0.545000**	**0.000259**	**54.839926**	**10.375489**
gradcam	0.565595	3.500000	1.996462	0.542500	**0.016902**	56.205281	**9.492769**
lime	**0.596873**	**3.250000**	1.912635	0.505000	0.014284	57.143269	10.374840
shap	**0.507646**	**3.250000**	**1.760529**	**0.487500**	0.000519	**61.118210**	10.375489

```
--- pos_thresh_75 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.022937	**0.000000**	**0.000000**	0.025000	0.998625	97.008971	**1.283964**
gradcam	0.182925	**0.000000**	**0.000000**	0.135000	**0.779125**	89.180259	7.443592
lime	**0.332176**	**2.250000**	**1.468688**	**0.197500**	0.879987	**81.625652**	**8.072819**
shap	**0.002504**	**0.000000**	**0.000000**	**0.017500**	**0.998952**	**97.195304**	1.867501

In [51]:
```
display_experiment_results(mask_experiment_results["logmel_cnn14"]["horse"])
```

```
--- topK_50_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.790265	**23.000000**	0.013285	0.490000	**0.256250**	49.703418	**4.962200**
gradcam	**0.668792**	17.750000	0.868279	0.530000	0.343064	50.479869	6.657979
lime	0.766223	21.750000	**10.250147**	**0.660000**	0.442753	**37.849872**	9.047391
shap	**0.790700**	**0.250000**	**0.000021**	**0.005000**	**0.498750**	**96.701160**	**9.658136**

```
--- topK_30_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.788512**	**0.000000**	**0.000000**	**0.002500**	**0.700006**	**97.261679**	9.171496
gradcam	**0.460496**	9.500000	0.002530	0.292500	**0.573245**	72.849382	**7.523147**
lime	0.661359	**15.500000**	**9.220467**	**0.412500**	0.673541	**59.308304**	**9.225868**
shap	0.783315	**0.000000**	**0.000000**	0.005000	0.700006	97.136170	9.171496

--- minmax_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.769097**	0.250000	0.228000	0.067500	**0.774741**	92.015486	**9.143423**
gradcam	**0.503930**	0.750000	0.082838	0.147500	**0.489150**	88.137385	9.194560
lime	0.699449	**6.750000**	**4.137273**	**0.265000**	0.604778	**75.024040**	**9.632975**
shap	0.753472	**0.000000**	**0.000000**	**0.007500**	0.727941	**97.820484**	9.333287

--- topK_5_pos ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.694687	**0.500000**	0.144353	**0.012500**	**0.949973**	**95.896013**	7.380256
gradcam	**0.120128**	4.000000	**0.023954**	0.102500	**0.882598**	89.776911	**6.880740**
lime	0.271864	**4.500000**	**2.608547**	**0.197500**	0.916628	**82.962081**	**7.847131**
shap	**0.731783**	**0.500000**	0.035988	0.022500	**0.949973**	95.778565	7.380256

--- pos_thresh_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.107345	**0.500000**	0.187773	**0.007500**	**0.998754**	97.551229	**3.272936**
gradcam	0.449661	1.750000	0.535797	0.235000	**0.606163**	79.931454	**8.681950**
lime	**0.527356**	**10.500000**	**7.369041**	**0.315000**	0.790181	**70.759820**	8.655861
shap	**0.105709**	**0.500000**	**0.183895**	0.017500	0.996972	**97.933361**	4.249546

--- topK_50 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.789462	**0.000000**	**0.000000**	**0.002500**	**0.500000**	**96.983037**	**9.682342**
gradcam	**0.612748**	3.500000	1.867875	0.312500	0.499043	71.584586	9.684249
lime	0.762015	**22.250000**	**12.026947**	**0.642500**	**0.476035**	**39.537862**	**9.728469**
shap	**0.790346**	**0.000000**	**0.000000**	**0.002500**	**0.500000**	96.830021	**9.682342**

--- pos_thresh_25 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.384352**	1.000000	0.495883	**0.010000**	**0.989098**	**97.488239**	**5.682150**
gradcam	0.575871	8.000000	1.853760	0.442500	**0.437850**	59.268579	8.633621
lime	**0.701000**	**15.500000**	**10.393404**	**0.512500**	0.628288	**50.697775**	**9.277334**
shap	0.566565	**0.250000**	**0.056373**	0.025000	0.961684	96.388969	6.980273

--- bin ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.789513	**0.000000**	**0.000000**	**0.002500**	**0.499980**	**96.973540**	9.682366
gradcam	**0.646689**	15.000000	2.474192	0.597500	0.311810	42.436289	**6.832786**
lime	0.780829	**39.250000**	**20.442444**	**0.832500**	**0.289847**	**16.629332**	**9.857504**
shap	**0.790179**	**0.000000**	**0.000000**	0.005000	0.488257	96.767062	9.705524

--- minmax ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.774537	**10.750000**	**7.420244**	0.275000	**0.040467**	72.473431	**10.371812**
gradcam	**0.665808**	2.250000	0.613855	0.255000	0.302358	78.459776	10.195316
lime	0.729969	9.500000	5.794292	**0.385000**	**0.369308**	**65.290681**	**10.105218**
shap	**0.788617**	**0.500000**	**0.111174**	**0.017500**	0.067695	**97.039395**	10.367169

--- topK_5 ---

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.694687	**0.500000**	0.144353	**0.012500**	**0.949973**	95.896013	**7.380256**
gradcam	**0.093496**	**0.500000**	0.046791	0.037500	0.948991	**96.103175**	7.399400
lime	0.271864	**4.500000**	**2.608547**	**0.197500**	**0.916628**	**82.962081**	**7.847131**
shap	**0.731783**	**0.500000**	**0.035988**	0.022500	**0.949973**	95.778565	**7.380256**

```
--- topK_30 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.788512**	**0.000000**	**0.000000**	**0.002500**	**0.700006**	**97.261679**	**9.171496**
gradcam	**0.393761**	0.500000	0.112459	0.147500	0.699028	87.297876	9.174741
lime	0.661405	**15.250000**	**9.220464**	**0.410000**	**0.675266**	**59.548510**	**9.248880**
shap	0.783315	**0.000000**	**0.000000**	0.005000	0.700006	97.136170	9.171496

```
--- sigmoid ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	**0.611034**	3.500000	**1.998115**	**0.557500**	**0.000539**	**56.133637**	**10.375488**
gradcam	0.586634	**1.000000**	**0.269063**	0.445000	**0.045041**	66.064125	**10.371285**
lime	0.600338	**4.000000**	1.717499	0.497500	0.018715	61.661336	10.374649
shap	**0.524776**	2.000000	0.651637	**0.415000**	0.001090	**68.324909**	10.375487

```
--- sigmoid_pos ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.575932	**3.000000**	1.418633	**0.512500**	**0.000270**	**61.364873**	**10.375489**
gradcam	0.594604	2.250000	**0.590318**	0.470000	**0.024387**	63.591157	**9.907195**
lime	**0.599717**	2.750000	**1.427913**	0.482500	0.015105	62.475879	10.374842
shap	**0.526671**	**2.000000**	0.656936	**0.422500**	0.000559	**68.180311**	10.375488

```
--- pos_thresh_75 ---
```

	FF	AI	AG	FidIn	SPS	AD	COMP
saliency	0.021472	**0.000000**	**0.000000**	**0.012500**	0.998810	96.992911	**1.436226**
gradcam	0.252305	0.500000	0.203256	0.075000	**0.799362**	92.993515	7.877263
lime	**0.334971**	**5.500000**	**3.827674**	**0.230000**	0.889490	**80.522536**	**8.001323**
shap	**0.003823**	**0.000000**	**0.000000**	0.020000	**0.998917**	**97.433493**	1.839846

Saving results

In [52]:
```
output_dir = "exported_csvs"
os.makedirs(output_dir, exist_ok=True)

for model_type, exps in experiment_results.items():
    for exp_name, df in exps.items():
        fname = f"{model_type}_{exp_name}.csv"
        df.to_csv(os.path.join(output_dir, fname), index=True)

for model_type, exps in mask_experiment_results.items():
    for exp_type, masks in exps.items():
        for mask_name, df in masks.items():
            fname = f"{model_type}_{exp_type}_{mask_name}.csv"
            df.to_csv(os.path.join(output_dir, fname), index=True)

os.makedirs("exported_true", exist_ok=True)
os.makedirs("exported_false", exist_ok=True)

for model in model_types:
    for exp_name, df_t in experiment_results_true[model].items():
        df_t.to_csv(f"exported_true/{model}_{exp_name}_true.csv", index=True)
    for exp_name, df_f in experiment_results_false[model].items():
        df_f.to_csv(f"exported_false/{model}_{exp_name}_false.csv", index=True)
```