main

September 13, 2021

1 Summary of features for interaction analysis

```
[1]: import pandas as pd
```

1.1 Function

```
[2]: def get_summary(feature):
         fn = "../../_m/%s/lfsr_allpairs_3tissues.txt.gz" % feature
         df = pd.read_csv(fn, sep='\t', low_memory=True)
         cc = df[(df["Caudate"] < 0.05) & (df["DLPFC"] >= 0.05) & (df["Hippocampus"]
     ↪>= 0.05)].shape[0]
         dd = df[(df["Caudate"] >= 0.05) & (df["DLPFC"] < 0.05) & (df["Hippocampus"]
     ↪>= 0.05)].shape[0]
         hh = df[(df["Caudate"] >= 0.05) & (df["DLPFC"] >= 0.05) &
     ↪(df["Hippocampus"] < 0.05)].shape[0]
         shared_df = df[(df["Caudate"] < 0.05) & (df["DLPFC"] < 0.05) &
     ↪(df["Hippocampus"] < 0.05)].shape[0]
         all_df = df[(df["Caudate"] < 0.05) | (df["DLPFC"] < 0.05) |
     ↪(df["Hippocampus"] < 0.05)].shape[0]
         print(feature.upper())
         print("There are %d caudate specific eFeatures!" % cc)
         print("There are %d DLPFC specific eFeatures!" % dd)
         print("There are %d hippocampus specific eFeatures!\n" % hh)
         print("There are {} ({:.1%}) eFeatures shared across brain regions!\n".
     ↪format(shared_df, shared_df / all_df))
```

1.2 Summary

```
[3]: for feature in ["genes", "transcripts", "exons", "junctions"]:
         get_summary(feature)
```

```
GENES
There are 830 caudate specific eFeatures!
There are 61 DLPFC specific eFeatures!
There are 18 hippocampus specific eFeatures!

There are 4712 (79.4%) eFeatures shared across brain regions!
```

```
TRANSCRIPTS
There are 3234 caudate specific eFeatures!
There are 6 DLPFC specific eFeatures!
There are 1 hippocampus specific eFeatures!

There are 5248 (61.4%) eFeatures shared across brain regions!

EXONS
There are 1060 caudate specific eFeatures!
There are 1044 DLPFC specific eFeatures!
There are 0 hippocampus specific eFeatures!

There are 9830 (79.2%) eFeatures shared across brain regions!

JUNCTIONS
There are 116 caudate specific eFeatures!
There are 79 DLPFC specific eFeatures!
There are 5 hippocampus specific eFeatures!

There are 2230 (85.4%) eFeatures shared across brain regions!
```

[ ]: