Predictions

2023-04-30

```
library(gridExtra)
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following object is masked from 'package:gridExtra':
##
##     combine
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
load(file = file.path(root_dir, "R_data", "pca_wm.Rda"))
load(file = file.path(root_dir, "R_data", "pca_gm.Rda"))
load(file = file.path(root_dir, "R_data", "pca_cb.Rda"))
```

Cumulative Variance

```
p1 <- plot_cumul_var(pca_wm$cum_var, ": White Matter")
```

```
## Scale for x is already present.
## Adding another scale for x, which will replace the existing scale.
```

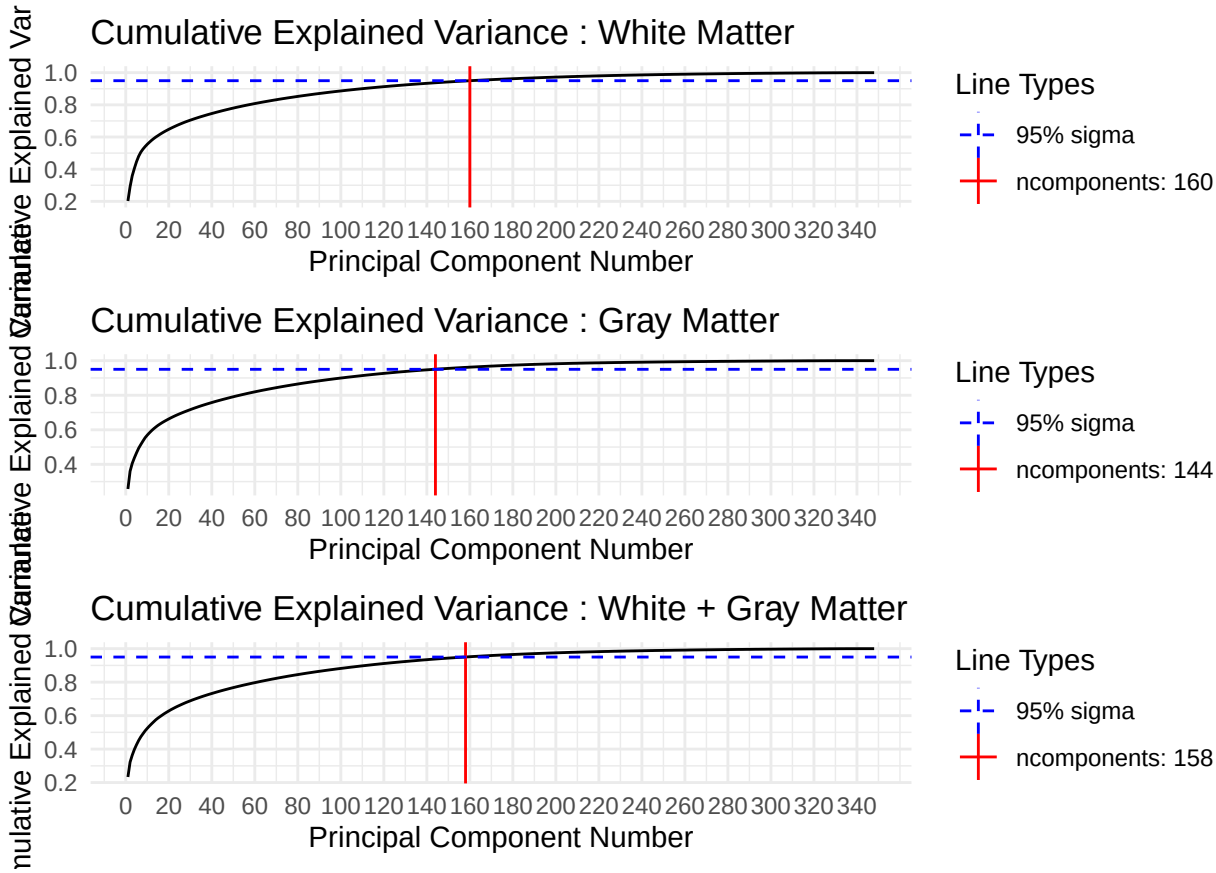
```
p2 <- plot_cumul_var(pca_gm$cum_var, ": Gray Matter")
```

```
## Scale for x is already present.
## Adding another scale for x, which will replace the existing scale.
```

```
p3 <- plot_cumul_var(pca_cb$cum_var, ": White + Gray Matter")
```

```
## Scale for x is already present.
## Adding another scale for x, which will replace the existing scale.
```

```
cum_var_comparison <- grid.arrange(p1, p2, p3, nrow = 3)
```




```
cum_var_comparison
```

```
## TableGrob (3 x 1) "arrange": 3 grobs
##   z     cells    name           grob
## 1 1 (1-1,1-1) arrange gtable[layout]
## 2 2 (2-2,1-1) arrange gtable[layout]
## 3 3 (3-3,1-1) arrange gtable[layout]
```

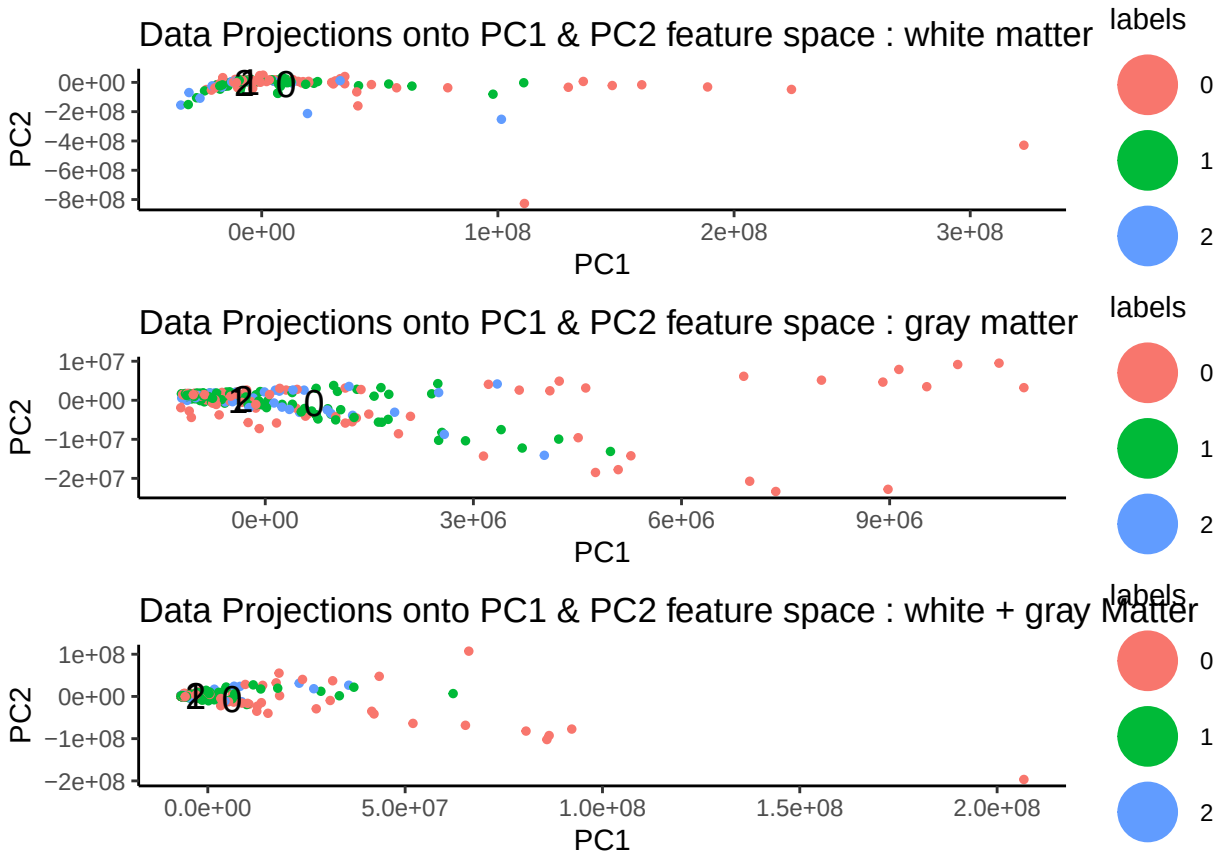
```
ggsave(file.path(root_dir, "R_data", "cum_var_comparison.pdf"), cum_var_comparison)
```

```
## Saving 6.5 x 4.5 in image
```

PC1 PC2 Feature Space

```
p1 <- plot_pc1_pc2(pca_wm$X_train_pca, pca_wm$y_train, ": white matter")
p2 <- plot_pc1_pc2(pca_gm$X_train_pca, pca_gm$y_train, ": gray matter")
p3 <- plot_pc1_pc2(pca_cb$X_train_pca, pca_cb$y_train, ": white + gray Matter")

pc1_pc2_comparison <- grid.arrange(p1, p2, p3, nrow = 3)
```




```
pc1_pc2_comparison
```

```
## TableGrob (3 x 1) "arrange": 3 grobs
##   z     cells    name           grob
## 1 1 (1-1,1-1) arrange gtable[layout]
## 2 2 (2-2,1-1) arrange gtable[layout]
## 3 3 (3-3,1-1) arrange gtable[layout]
```

```
ggsave(file.path(root_dir, "R_data", "pc1_pc2_comparison.pdf"), pc1_pc2_comparison)
```

```
## Saving 6.5 x 4.5 in image
```