Statistical Results from Modified Policy Shaping Experiments

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```r
library(dplyr)
```

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

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

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

```r
library(ggplot2)
```

```r
d1 <- read.csv("AMPS_results.csv")
d2 <- read.csv("Best_Actions_Results.csv")
d3 <- read.csv("Similarity_Results.csv")
d <- read.csv("experiment_results.csv")
```

```r
new1 <- d1 %>%
  group_by(Episode) %>%
  summarize(reward_per_episode = mean(Reward))
```

```r
new2 <- d2 %>%
  group_by(Episode) %>%
  summarize(reward_per_episode = mean(Reward))
```

```r
new3 <- d3 %>%
  group_by(Episode) %>%
  summarize(reward_per_episode = mean(Reward))
```

```r
avg_reward <- d %>%
  group_by(Experiment_Name, Episode) %>%
  summarise(avg_reward = mean(Reward))
```

```
## `summarise()` has grouped output by 'Experiment_Name'. You can override using
## the `.groups` argument.
```

```r
ggplot(d, aes(x = Episode, y = Reward, color = Experiment_Name)) +
  geom_rect(aes(xmin = 1, xmax = 5, ymin = -Inf, ymax = Inf), fill = "grey", color = NA, alpha = 0.01) +
  geom_rect(aes(xmin = 20, xmax = 25, ymin = -Inf, ymax = Inf), fill = "grey", color = NA, alpha = 0.01)
  geom_line()+
  labs(x = "Episode Number", y = "Total Reward",
       title = "Reward for 50 episodes averaged over 15 runs")+
  theme_linedraw()+
```

```
guides(color = guide_legend(title = NULL))
```

Reward for 50 episodes averaged over 15 runs