

Hello, Penguins

Lukman Aliyu

Introduction

I have been learning data science as a fellow of the Arewa Data Science Academy since January, 2023 and I have picked many skills. This is an attempt to practice quarto using the R programming language, in the RStudio IDE. I will work on the palmerpenguins dataset. Work in progress!!

Data

For this analysis, we'll use the penguins dataset from the palmerpenguins package. (Gorman, Williams, and Fraser 2014)

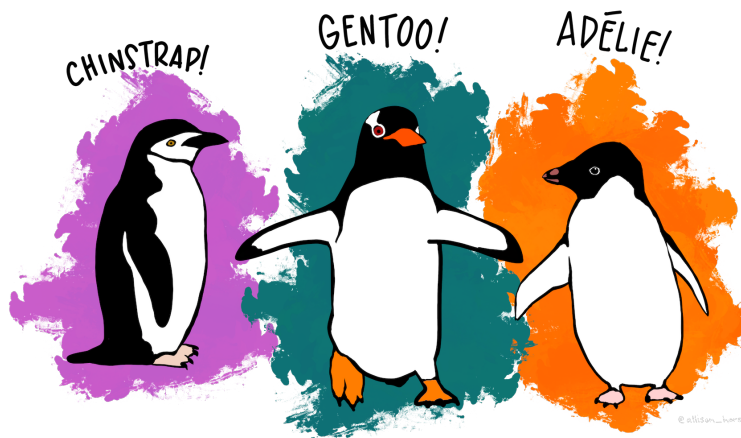
```
glimpse(penguins)
```

```
Rows: 344
Columns: 8
$ species      <fct> Adelie, Adelie, Adelie, Adelie, Adelie, Adelie, Adel~
$ island       <fct> Torgersen, Torgersen, Torgersen, Torgersen, Torgerse~
$ bill_length_mm <dbl> 39.1, 39.5, 40.3, NA, 36.7, 39.3, 38.9, 39.2, 34.1, ~
$ bill_depth_mm <dbl> 18.7, 17.4, 18.0, NA, 19.3, 20.6, 17.8, 19.6, 18.1, ~
$ flipper_length_mm <int> 181, 186, 195, NA, 193, 190, 181, 195, 193, 190, 186~
$ body_mass_g  <int> 3750, 3800, 3250, NA, 3450, 3650, 3625, 4675, 3475, ~
$ sex          <fct> male, female, female, NA, female, male, female, male~
$ year         <int> 2007, 2007, 2007, 2007, 2007, 2007, 2007, 2007, 2007~
```

Meet Quarto

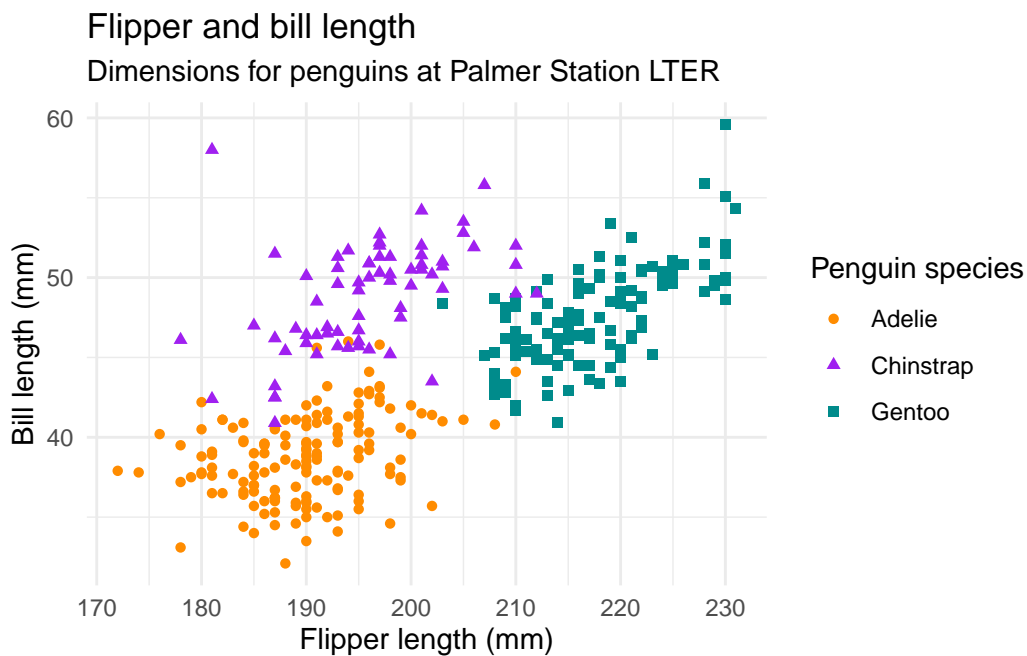
Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see <https://quarto.org>.

Meet the penguins



The `penguins` data from the [palmerpenguins](#) package contains size measurements for 344 penguins from three species observed on three islands in the Palmer Archipelago, Antarctica.

The plot below shows the relationship between flipper and bill lengths of these penguins.



Species

Figure 1 is a scatter plot of species of penguins

```
ggplot(penguins,  
  aes(x=bill_length_mm, y= bill_depth_mm,color=species,shape=species)) + geom_point()
```

Warning: Removed 2 rows containing missing values (`geom_point()`).

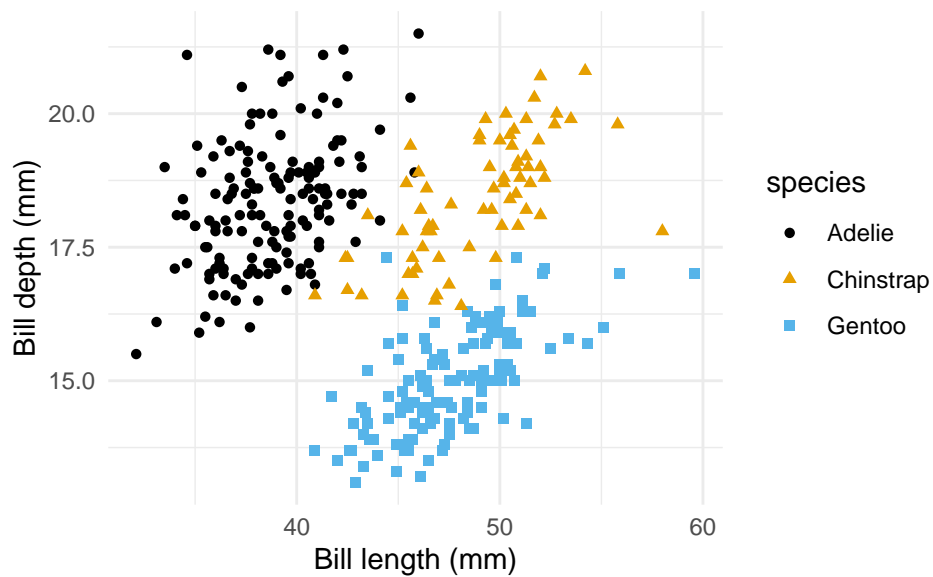


Figure 1: A scatterplot of penguin's bill depth and length, colored by species of penguins.
output-location: slide

Penguins

Table 1 shows the first ten penguins from the dataset.

```
penguins %>%  
  slice_head(n=10) %>%  
  select(species,island,bill_length_mm,bill_depth_mm) %>%  
  gt()
```

Table 1: First 10 penguins.

species	island	bill_length_mm	bill_depth_mm
Adelie	Torgersen	39.1	18.7
Adelie	Torgersen	39.5	17.4
Adelie	Torgersen	40.3	18.0
Adelie	Torgersen	NA	NA
Adelie	Torgersen	36.7	19.3
Adelie	Torgersen	39.3	20.6
Adelie	Torgersen	38.9	17.8
Adelie	Torgersen	39.2	19.6
Adelie	Torgersen	34.1	18.1
Adelie	Torgersen	42.0	20.2

Analysis

Modelling Results

References

Gorman, Kristen B., Tony D. Williams, and William R. Fraser. 2014. “Ecological Sexual Dimorphism and Environmental Variability Within a Community of Antarctic Penguins (Genus *Pygoscelis*).” Edited by André Chiaradia. *PLoS ONE* 9 (3): e90081. <https://doi.org/10.1371/journal.pone.0090081>.