

Task 1 – Dataset (Penguins)

Neural Network



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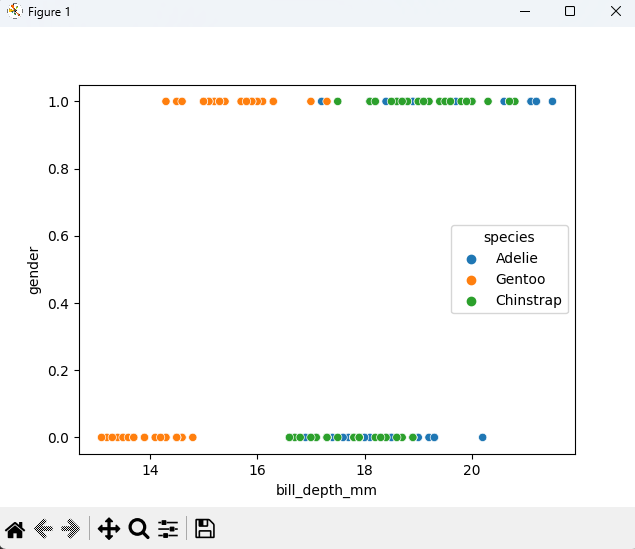


Figure 1 The data above using features "Gender " and “Bill Depth" shows that:

1. between class "Gentoo" & "Chinstrap": there is a line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly.

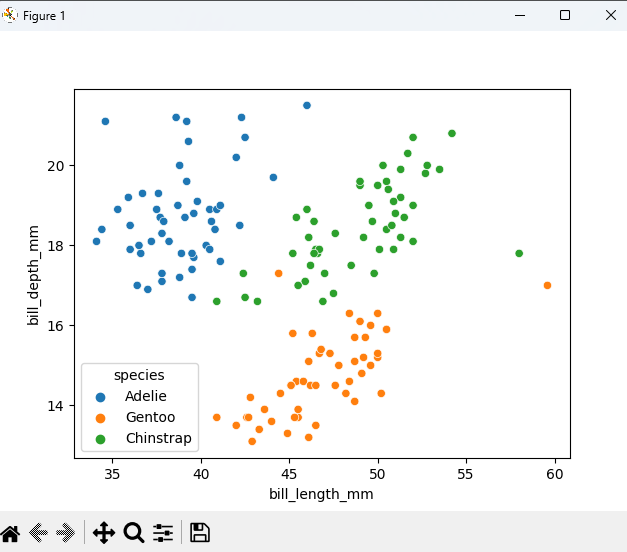


Figure 2 The data above using features "Bill length " and “Bill Depth" shows that:

between class "Gentoo" & "Chinstrap": there is a line to separate them linearly.

between class "Gentoo" & "Adelie": there is a line to separate them linearly.

between class "Adelie" & "Chinstrap": there is no line to separate them linearly.

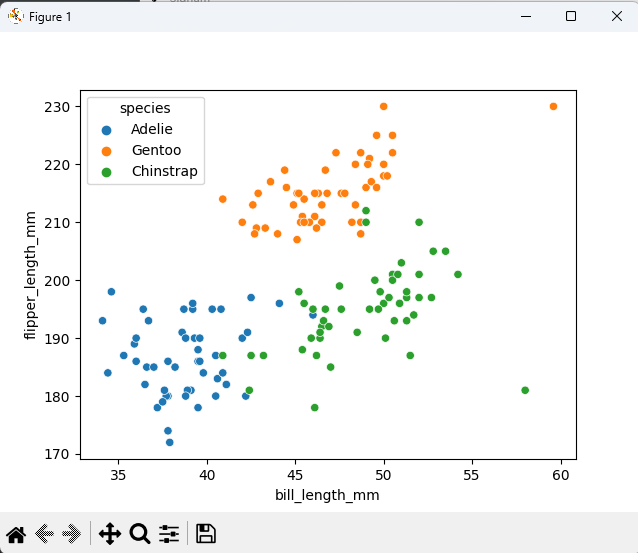


Figure The data above using features " Bill Length" and "Flipper Length " shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly.

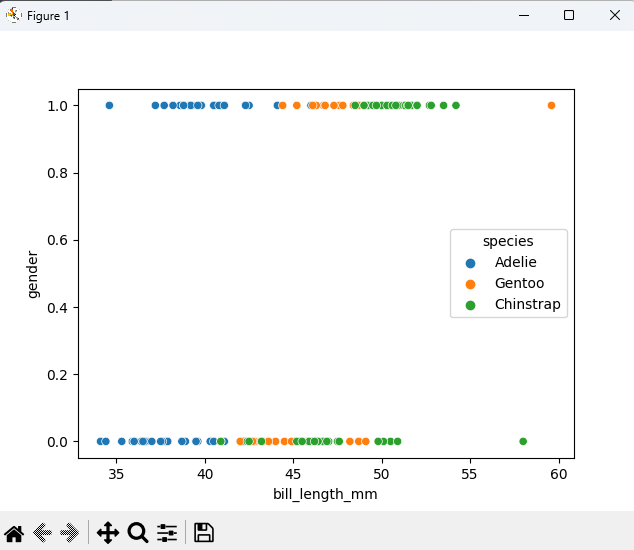


Figure The data above using features "Bill length " and “Gender" shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly.

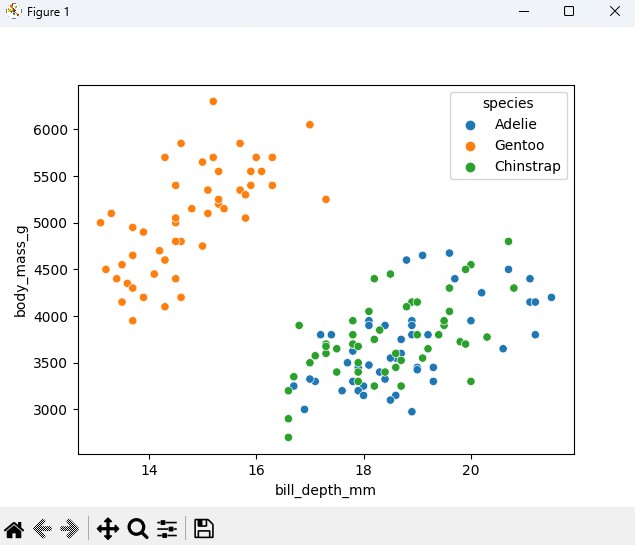


Figure The data above using features " Bill Depth" and "Body Mass " shows that:

1. between class "Gentoo" & "Chinstrap": there is a line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is a line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

Chart, scatter chart

Description automatically generated

Figure The data above using features " Bill Length" and "Body Mass " shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

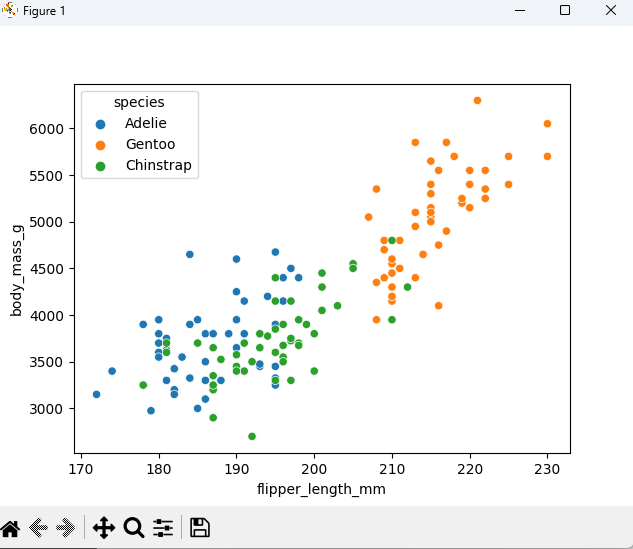


Figure The data above using features " Flipper Length" and "Body Mass " shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

Graphical user interface

Description automatically generated

Figure 8 The data above using features " Gender" and "Body Mass " shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is no line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

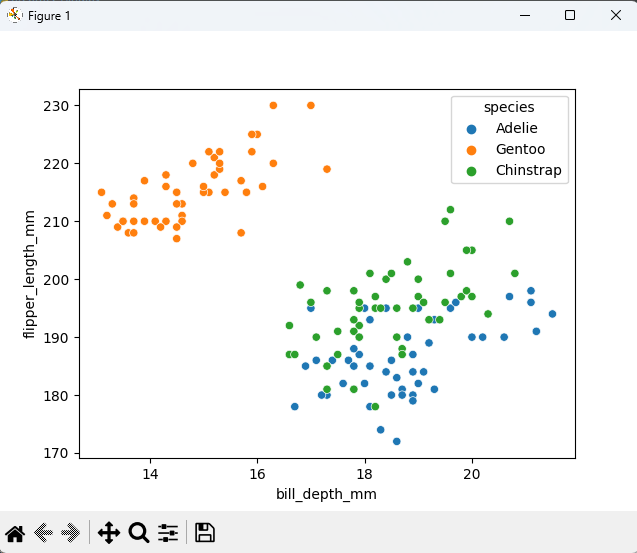


Figure The data above using features " Flipper Length" and "Bill Depth " shows that:

1. between class "Gentoo" & "Chinstrap": there is a line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is a line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

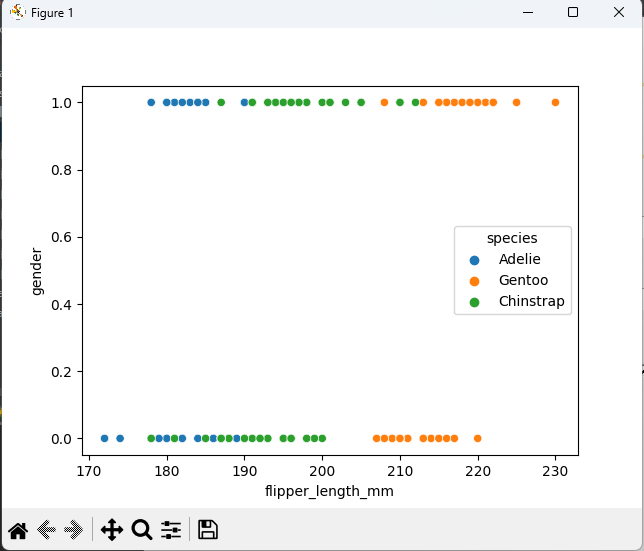


Figure The data above using features " Flipper Length" and "Bill Depth " shows that:

1. between class "Gentoo" & "Chinstrap": there is no line to separate them linearly.
2. between class "Gentoo" & "Adelie": there is a line to separate them linearly.
3. between class "Adelie" & "Chinstrap": there is no line to separate them linearly

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Analysis

The figures above show that what we understood from each of the visualizations and how the features discriminate or not between classes, in conclusion,

the features that achieved the highest accuracy after running our algorithm.