Penguins Classifier based on Single Layer perceptron

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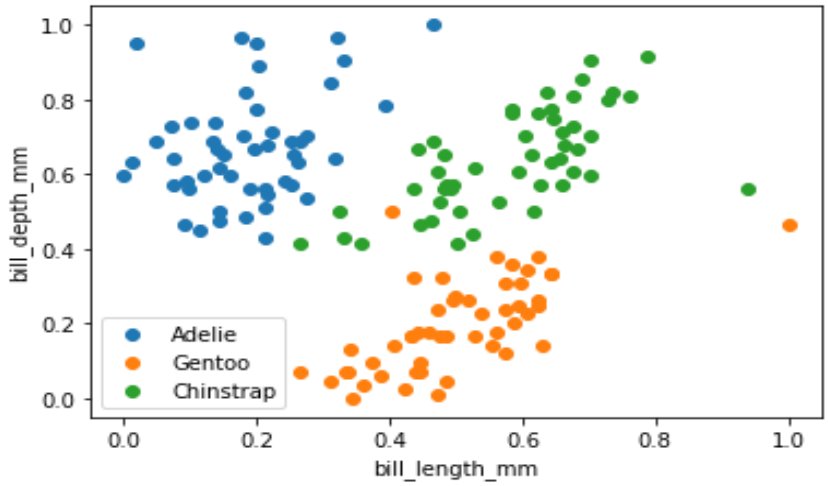
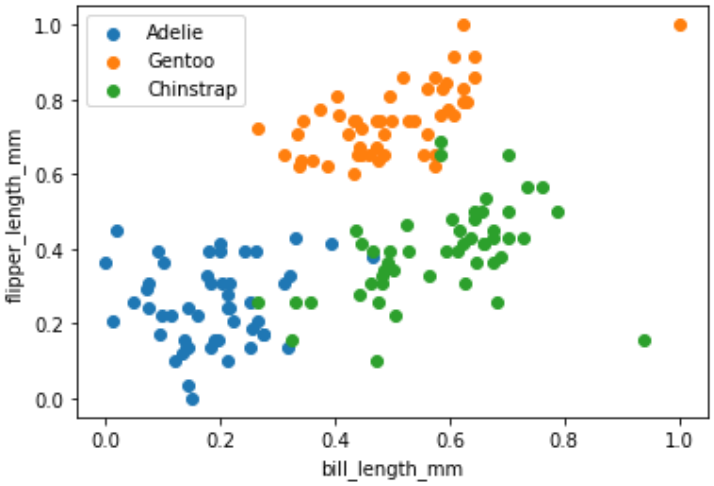
1.



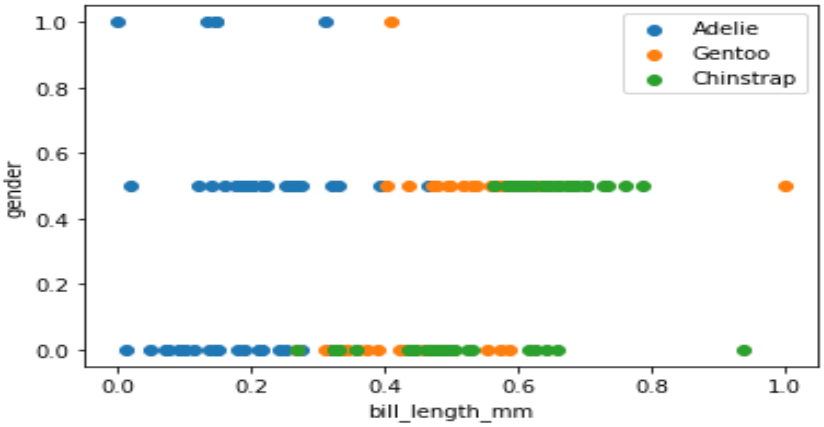
- Adelie class and Gentoo class we can separate between them using (bill_length_mm & bill_depth_mm) features.
- Adelie class and Chinstrap class or Chinstrap class and Gentoo class we can separate between them using features but in less accuracy.

2.



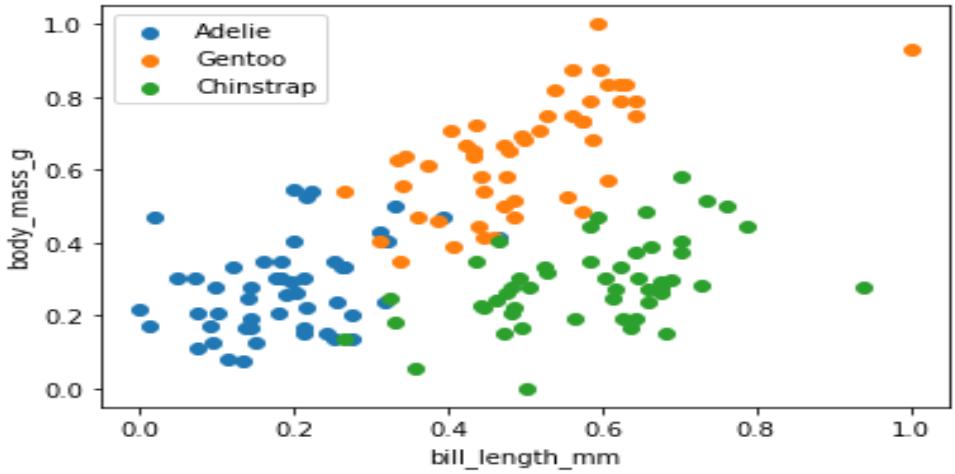
- Gentoo class and Chinstrap class we can separate them perfectly using (bill_length_mm & flipper_lenght_mm) features.
- Adelie class and Gentoo class we can separate them using these features but in less accuracy.
- Adelie class and Chinstrap class we cannot separate them using these two features.

3.



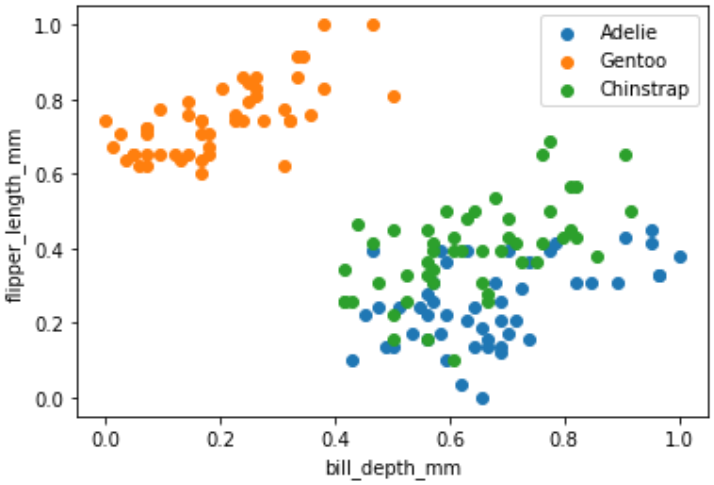
- If we use these features(bill_length & gender) we cannot separate between the three classes.

4.



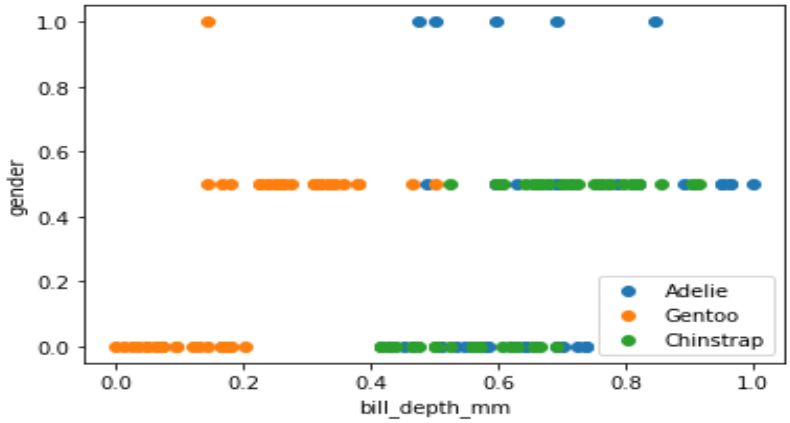
- Gentoo class and Chinstrap class we can separate between them using (bill_length & body_mass) features.
- Gentoo class and Chinstrap class we can separate between using these features.
- Adelie class and Gentoo class we cannot separate these classes using these features.

5.



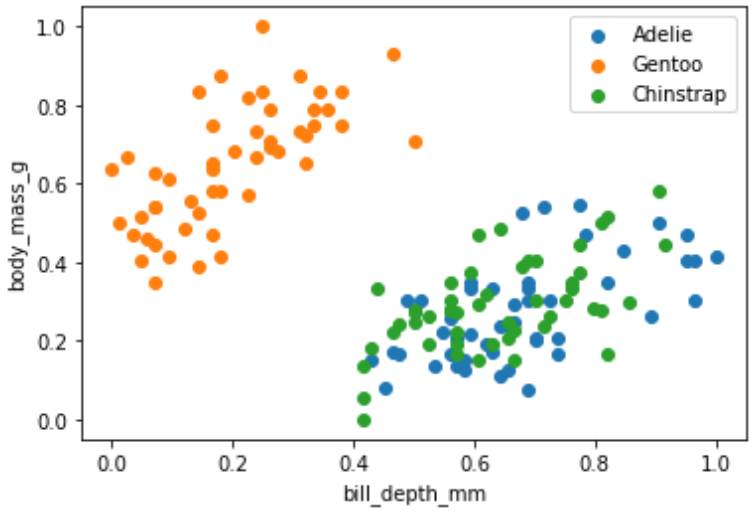
- Gentoo class and Adelie class we can separate between them perfectly using (bill_depth_mm & flipper_length_mm) features.
- Gentoo class and Chinstrap class we can separate between them perfectly using features.
- Adelie class and Chinstrap class we cannot separate between them using these two features.

6.



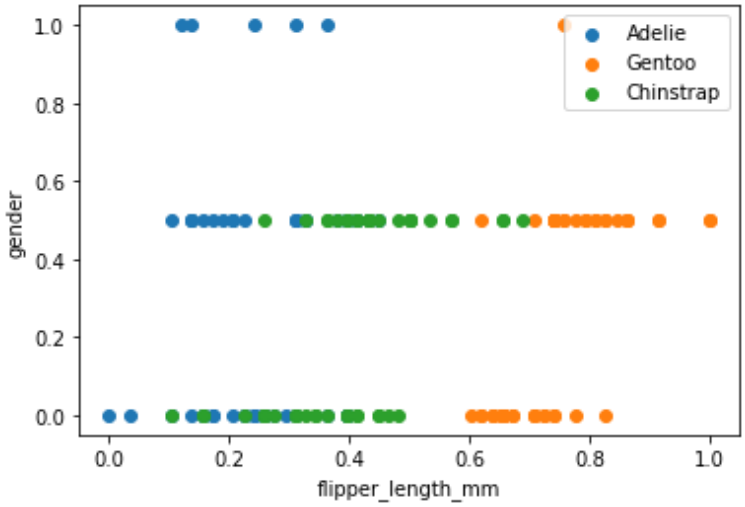
- If we use these features(bill_depth & gender) we cannot separate between the three classes.

7.



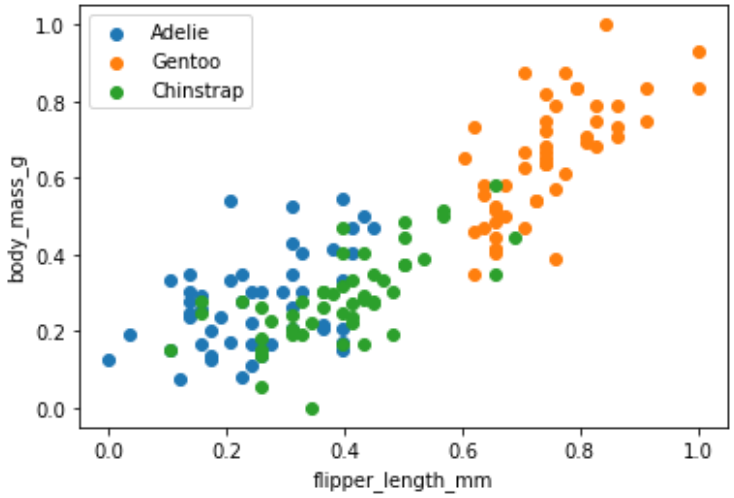
- Adelie class and Gentoo class we can separate them perfectly using (bill_depth_mm & body_mass_g) features.
- Chinstrap class and Gentoo class we can separate them perfectly using these features
- Chinstrap class and Adelie class we cannot separate them using these features.

8.



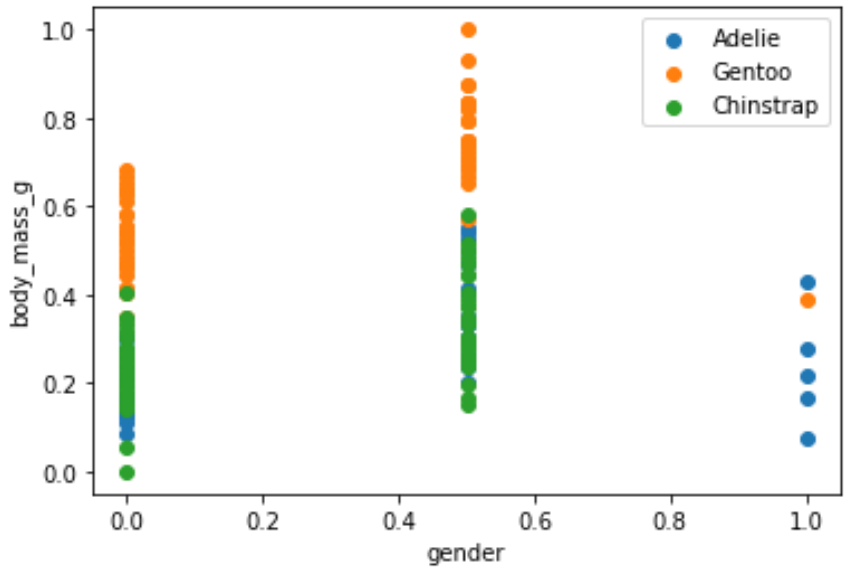
- If we use these features(flipper_length & gender) we cannot separate between the three classes.

9.



- Adelie class and Gentoo class we can separate them using (flipper_length_mm & body_mass_g) features but in less accuracy.
- Adelie class and Chinstrap class or Gentoo class and Chinstrap class we cannot separate them using these features.

10.



- If we use these features(gender & body_mass) we cannot separate between the three classes.

After running the algorithm we find that we can separate between classes using these features together:

1. 2^{nd} feature &3^{rd} feature to separate between 1^{st} class & 2^{nd} class (train = 100% test = 100%)
2. 2^{nd} feature &3^{rd} feature to separate between 2^{nd} class & 3^{rd} class (train = 100% test = 100%)
3. 2^{nd} feature &5^{th} feature to separate between 1^{st} class & 2^{nd} class (train = 100% test = 100%)
4. 2^{nd} feature &5^{th} feature to separate between 2^{nd} class& 3^{rd} class (train = 100% test = 100%)