Task 2 Report

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# Visualizations

Chart, scatter chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie} and {Gentoo, Chinstrap}.
* Features are **non-linearly separable** with class combination(s) {Adelie, Chinstrap}.

Chart, scatter chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}.
* Features are **non-linearly separable** with class combination(s) {Adelie, Chinstrap}, and {Gentoo, Chinstrap}.

Graphical user interface, text, application

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}.
* Features are **non-linearly separable** with class combination(s) {Gentoo, Chinstrap}, and {Adelie, Chinstrap}.

Chart, scatter chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}
* Features are **non-linearly separable** with class combination(s) {Gentoo, Chinstrap}, and {Adelie, Chinstrap}.

Chart, scatter chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}, and {Adelie, Chinstrap}.
* Features are **non-linearly separable** with class combination(s) {Gentoo, Chinstrap}.

Graphical user interface, text

Description automatically generated with medium confidence

·         Features are **linearly separable** with class combination(s) {Gentoo, Chinstrap} .

·         Features are **non-linearly separable** with class combination(s) {Gentoo, Adelie}, and {Adelie,

Chinstrap}.

Chart, scatter chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}, and {Adelie,

Chinstrap}.

* Features are **non-linearly separable** with class combination(s) {Gentoo, Chinstrap}.

Graphical user interface, text

Description automatically generated with medium confidence

* Features are not **linearly separable** with any class combination.
* Features are **non-linearly separable** with all class combinations.

Chart, scatter chart

Description automatically generated

* Features are not **linearly separable** with any class combination.
* Features are **non-linearly separable** with all class combinations.

Chart

Description automatically generated

* Features are **linearly separable** with class combination(s) {Gentoo, Adelie}.
* Features are **non-linearly separable** with class combination(s) {Gentoo, Chinstrap}, and {Adelie,

Chinstrap}.

# Accuracy

The top 3 models (learning rate = 0.01, number of iterations = 6000, bias included) were as follows:

Chart, scatter chart

Description automatically generated

1. **Features**: flipper\_length\_mm, bill\_depth\_mm

**Classes**: Adelie, Gentoo

**number of iterations**:13

**MSE Threshold: 0.080643**

**Train accuracy**: 100.0

**Test accuracy**: 100.0

Chart, scatter chart

Description automatically generated

1. **Features**: flipper\_length\_mm, bill\_length\_mm

**Classes**: Adelie, Gentoo

**number of iterations**:114

**MSE Threshold: 0.063246**

**Train accuracy**: 100.0

**Test accuracy**: 100.0

Chart

Description automatically generated

1. **Features**: flipper\_length\_mm, gender

**Classes**: Adelie, Gentoo

**number of iterations**:2

**MSE Threshold: 0.08381851**

**Train accuracy**: 100.0

**Test accuracy**: 100.0