# CPSC 383 – Winter 2025
# Tutorial worksheet: Perceptron

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Your TA will start with a short introduction explaining a bit about the models and how they work. After this, play around with the tools provided for each model to get a sense for what is going on. For this part, work and discuss your ideas in groups of 3–4 students. Once you think you all have a good understanding, answer the listed questions. To receive credit for this worksheet, you will need to explain your answers to your TA during the tutorial and have them approved.

## Perceptron

Tool: `https://cspages.ucalgary.ca/~jcleahy/CPSC383_F24/perceptron.html`

1. What type of problem is the perceptron solving? It is supervised or unsupervised? If it is supervised, is this a classification or regression problem?
2. What is the format of the input data? What about output data (predictions)?
3. What model class is the perceptron searching in? What are the model parameters?
4. What types of data set does the perceptron perform well on? Can you find any examples where it performs poorly?
5. Can you come up with a data set where the perceptron algorithm leads to overfitting?
6. Try increasing the outlier probability - what do you notice? Do you have any thoughts on how to fix this?