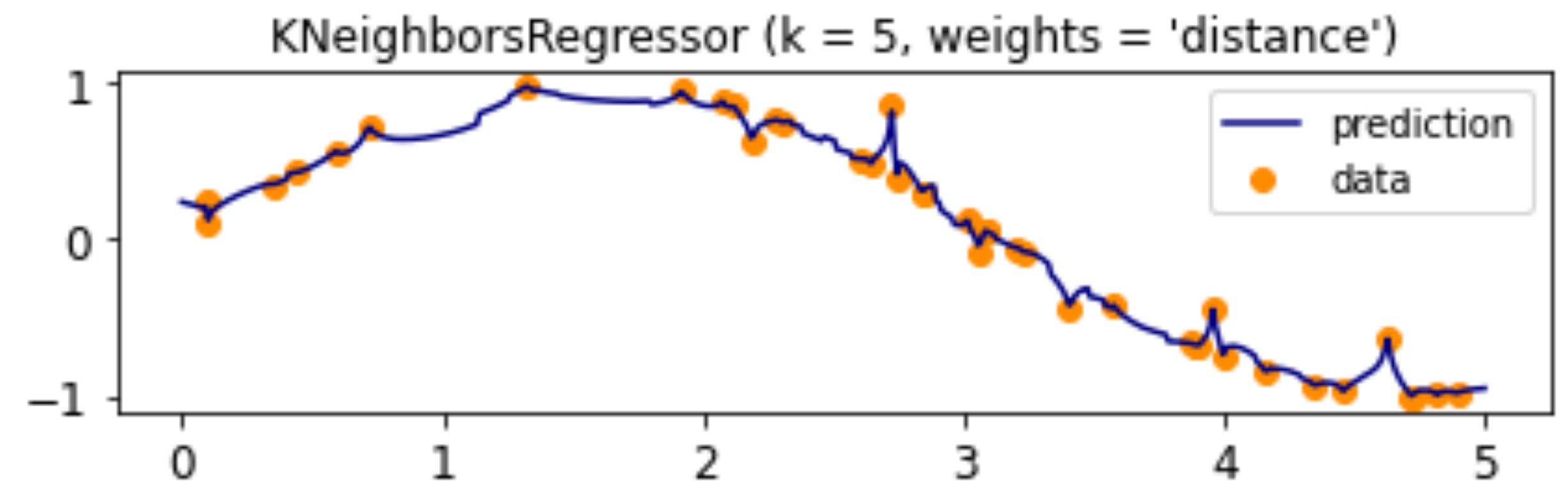
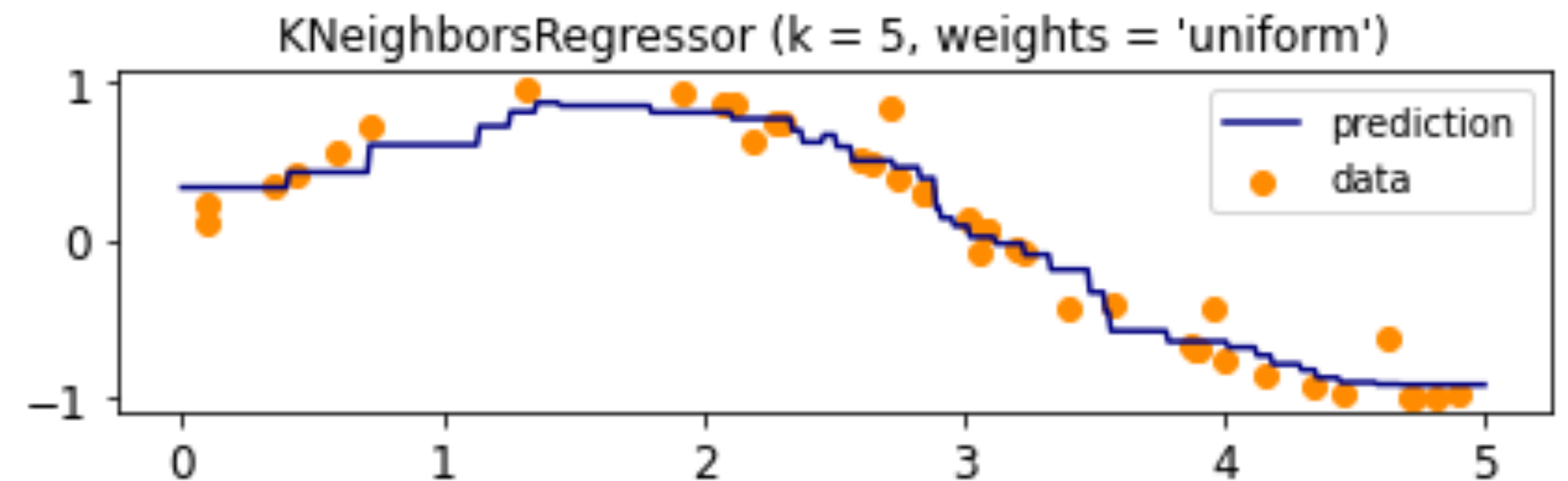
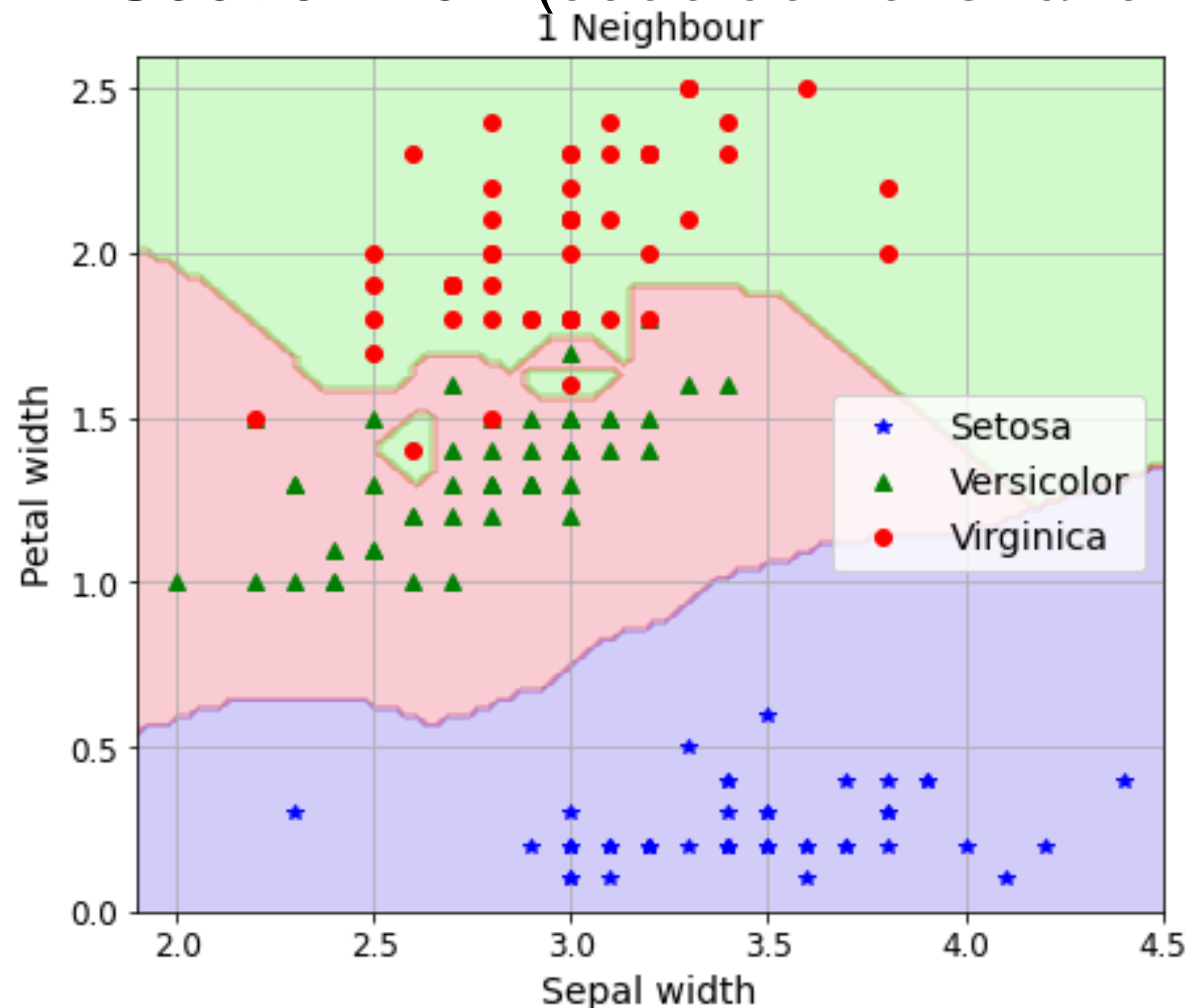


Module 07 Tutorial - nonparametric methods

The code is available in vUWS named: *tutorial - module07.py*

Section 1&2 (code demonstration): use KNN for classification and regression.



Module 07 Tutorial - nonparametric methods

Section 3: Based on the exercises above, do the following task.

Task: use KNN to classify handwritten digits:

- (a) Create subsets of 2 digits from both the training and test data (pick two digits, e.g. 3 and 8). Classify the test data using the training set, with $k = 3$.
- (b) Pick a misclassified example. How do the nearest neighbours look like?
- (c) Use the training data to create training and validation sets. Use the validation set to find the best value for k . Use the k you selected, compute the error on the test set. How does it compare with results from part (a)?
- (d) Apply the selected k to classify all digits of the test set.