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UK Machine Learning

WS 2018

Exercise 2

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- Groups of 2 students
- Implement one of these machine learning algorithms for classification:
 - k-NN
 - Naïve Bayes
 - Decision tree

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k-NN

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- Implement the algorithm presented in the lecture
 - The user should be able to specify the number of neighbours (k)
 - You should experiment with different distance metrics (you can use the existing libraries for various distance metrics)
 - Apply your implementation in 4 datasets (e.g. UCI Repository) and compare with two other classification algorithms
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Naïve Bayes

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- Implement the algorithm presented in the lecture
 - You should use Laplace correction
 - You can apply discretization for numeric attributes
 - Apply your implementation in 4 datasets and compare with two other classification algorithms
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Decision tree

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- Implement the algorithm presented in the lecture
 - Apply your implementation in 4 datasets and compare with two other classification algorithms
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Exercise 2 – Software

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- You can use different programming languages/software packages
 - R
 - Python
 - Matlab
 - Weka (Java)
 - ...
- You can use the existing libraries for reading the datasets, evaluating of classifiers, ...

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Exercise 2 – Submission

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- Submission of implementations/slides in Moodle (E-Learning):
 - January 16
- Presentations/Discussions:
 - January 17

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