

Algorithms for Big Data

A Course Introduction

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1. Artificial Neural Networks
2. Convolutional Neural Networks
3. Recurrent Neural Networks
4. Encoder-Decoder Architecture
5. ...

- Aggarwal C.C. (2015), Data Mining: The Textbook, Springer.
- Bramer, M. (2013). Principles of data mining. Springer.
- Leskovec, J., Rajaraman, A., Ullman, J. D. (2014). Mining of massive datasets. Cambridge University Press.
- Witten, I. H., Frank, E. (2011). Data Mining: Practical machine learning tools and techniques [3rd Ed.]. Morgan Kaufmann.
- Zaki, M. J., Meira Jr, W. (2014). Data Mining and Analysis: Fundamental Concepts and Algorithms. Cambridge University Press.

Course Evaluation - Full-time students

- Exercise tasks finishing (5 to 10 points):
 - up to 2 points for finishing task at the exercise or at home.
- Project with Convolutional Neural Networks (10 to 20 points):
 - Select a smaller dataset and apply a Convolutional Neural Networks.
 - A Jupyter Notebook with description.
- Project with Recurrent Neural Networks (10 to 20 points):
 - Select a smaller dataset and apply a Recurrent Neural Networks.
 - A Jupyter Notebook with description.
- Larger project realization on KAGGLE (20 to 50 points):
 - Select a proper dataset from the Kaggle dataset (selection have to be confirmed by the lector)
 - A Jupyter Notebook with description of the steps.

Questions?