PDEEC– Machine Learning 2018/19
Lecture 0 – Course Presentation

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Team

- Lecturer
  - Jaime S. Cardoso
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Lecturer

- Graduate Studies (Licenciatura) Sep 1994-Jul 1999
  - Faculdade de Engenharia, Universidade do Porto, Portugal
  - Departamento de Engenharia Electrotécnica e de Computadores
- Master Studies Sep 2003-Nov 2005
  - Faculdade de Ciências da Universidade do Porto, Portugal
  - Thesis on “Classification of Ordinal Data”
- Doctoral Studies Feb 2002-May 2006
  - Faculdade de Engenharia, Universidade do Porto, Portugal
  - Departamento de Engenharia Electrotécnica e de Computadores
  - Thesis on “Metadata Assisted Image Segmentation”

Methodology

- Calculation of the final classification
  - Homework [H]: Students will be assigned bi-weekly individual assignments during the whole duration of the course, involving python and ‘paper and pencil’ exercises.
  - Project [P]: written report and oral presentation on a practical project applying machine learning to a real-life problem.
  - Exam [E]
- Each component will receive a grading in 0-20. The final score will be calculated according to the following rule: 30% * H + 35% * P + 35% * E

Planning

- http://paginas.fe.up.pt/~jsc/ML/

References

- **Christopher M. Bishop, Pattern recognition and machine learning, Springer, 2006.**
- Trevor Hastie and Robert Tibshirani and Jerome Friedman, The elements of statistical learning, Springer.
- Deep Learning, I. Goodfellow, Y. Bengio, A. Courville, 2016
- Sergios Theodoridis and Konstantinos Koutroumbas, Pattern recognition, Elsevier, Academic Press, 2009.
- Sergios Theodoridis, Machine Learning: A Bayesian and Optimization Perspective, 2015.
- Tom M. Mitchell, Machine learning McGraw-Hill, 1997.
- Richard O. Duda, Peter E. Hart, David G. Stork, Pattern Classification, John Wiley & Sons, 2001

Online Material

- **List of 35 Free Online Books on Machine Learning**
  http://vitalflux.com/machine-learning-list-of-35-free-online-books/
- **http://conductrics.com/data-science-resources/**
- **http://machinelearningmastery.com/best-machine-learning-resources-for-getting-started/**
- **http://www.sciencemag.org/site/feature/data/compsci/machine_learning.xhtml**

References

- Eric Xing' Homepage, http://www.cs.cmu.edu/~epxing/
- Andrew Moore, Statistical Data Mining Tutorials, http://www.autonlab.org/tutorials/
- Mário A. T. Figueiredo' Homepage, http://www.lx.it.pt/~mtf/
- Nuno Vasconcelos' Homepage, http://www.svcl.ucsd.edu/~nuno/
- Joachim Buhmann' Homepage http://ml2.inf.ethz.ch/courses/iml/

http://www.ml.inf.ethz.ch/people/professors/jbuhmann