Introduction Lecture

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C35 Spl
Time-series

• Ordered sequence of real-time values

• Challenges:
  – Prediction
  – Classification and Early Classification
  – Discovering rules in time series
  – Clustering
  – Modeling and Dependencies
Seminar: A three step process

• **Step 1**: Student selects a paper from a provided list

• **Step 2**: Student presents the paper during an allocated slot

• **Step 3**: Student submits a written report

source: thedoverguy.com
STEP 1: Selecting a paper

- Go to: www.ismll.de → english → Courses → Winter Term 2015, Master-Seminar: Time-Series Mining → Readings

- Select 3 (three) papers and send them
  - Via email to josif@ismll.de
  - Rank the papers by order of preference
  - First-come first-serve principle
  - Deadline: 05/11/2015 16:00
List of Papers (1)

- Dachraoui et al., Early Classification of Time Series as a Non Myopic Sequential Decision Making Problem, Proceedings of the 8th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, ECML 2015
- Caballero et al., Dynamically Modeling Patient's Health State from Electronic Medical Records: A Time Series Approach, Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD 2015
- Shokoohi-Yekta et al., Discovery of Meaningful Rules in Time Series, Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD 2015
List of Papers (2)

- Cheng et al., FBLG: A Simple and Effective Approach for Temporal Dependence Discovery from Time Series Data, Proceedings of the 20th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD 2014
- Bahadori et al., Functional Subspace Clustering with Application to Time Series, Proceedings of the 32nd International Conference on Machine Learning, ICML 2015
STEP 2: Presentations

• Within a week after receiving the preferred papers (until 12/11/15), the instructor will send back a list of allocated papers and presentation times to the students

• One presentation per week (two only if the classroom is crowded)

• Duration: Talk 60 minutes, Discussion 60 minutes

• Participation is mandatory to all presentations!
STEP 3: Seminar Report

• Content should be ca. 20 pages
• **Soft** Submission deadline: 22/01/2016
• To be submitted to Josif Grabocka (C35 Spl)
  - 3 printed and bound copies
  - 1 CD with the report and all relevant materials
The Purpose of This Seminar is

- To assess and improve a student's ability to understand state-of-the-art research work,
- To understand and analyze strengths and weaknesses of published research papers,
- To promote constructive criticism
Please avoid

- Memorizing formulas
- Just giving a nice presentation
- Simply reproducing what the authors have written
- Not being able to rephrase and reformulate from scratch

Swim on your own!
Tips for A Successful Seminar

- Understand the problem definition
- Explore the related work (Speed read 5-6 closely related papers)
- Assess how does the paper delineate from the related work
- What is being optimized? How?
- Is the method better, significantly?
- What about the runtime?
Tips on Writing A Seminar Report

• Describe the motivation, context and the related work

• Formulate the problem definition with your own words (do not reproduce the paper)

• Provide a minimal working example for the optimization method

• Assess positive and negative points

• Criticize and suggest improvements
Thank you!

- Questions, comments, feedback?