Intrusion Detection Systems ‘17

Rules and Guidelines

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Today’s agenda

A. Seminar instructions
   a. Deliverables
   b. Grading
   c. FAQ
Our goal

- Get an **overview** of the academic state-of-the-art
- Extend your **knowledge** in security and/or machine learning
- How to **write** research paper
What to deliver?

- 3 presentations
  - Anomaly detection: A Survey + Core + Individual
  - 20 minutes + 10 minutes of discussion

- 2 report
  - Core Report + Individual Report (LNCS format)
Presentation
Presentation

Needs to be:

- Correct
- Complete
- Comprehensible
Presentation - Correct

- Present information from the paper correctly
- Don’t speculate without a reason or proof
- Don’t claim something you cannot explain well
Presentation - Complete

- Explain all key points of the paper
- Be careful about *time constraints* and distribution
- Convey information without leaving out important insight
Presentation - Comprehensible

- Speak loud and clear
- Think about the audience - fellow students
- Motivate the audience for discussion
- Don’t fight your audience, answer all questions friendly
A PPT is just a presentation aid. It should not be a paper in its own right and your bullet points should be, if possible, less than a line long. Specifically, keep bullet points short by making them clear and concise. Do not be afraid from using incomplete sentences or phrases. In reality, this is the preferred method because it helps to highlight the points you are making during your talk.

This is because having lots of text on your slides makes it difficult to understand the point you are trying to make. Furthermore, your audience will end up reading the text and ignoring you.
Presentation - Emphasis

- ONLY USE CAPITALIZATION WHEN NEEDED
- Use color sparingly
- Only bold key words and phrases
- Light text on a dark background is bad
Presentation - Structure

- Introduction
- Main Point
- Back up arguments
- Conclusions (key takeaways)
Presentation - Audience

- Read papers, or at least abstracts, prior to each presentation day
- Listen carefully, write down questions
- Ask questions, comment
- Active participation is appreciated!
Presentation - Grading

● Presentation skills
  ○ General organization, use of slides
  ○ Language, slide text and graphics
  ○ Pace, use of time

● Subject-related competence (more important)
  ○ Subject knowledge
  ○ Staying on topic
  ○ Identifying interesting/important points
Report
Report

- **Core paper report** has to be at least **12 pages**
  - Each group has to write a review for their core papers and try to logically relate their content in their report.

- **Individual paper report** has to be at least **6 pages**
  - After specifying your individual paper (Don’t forget Doodle!), you have to write a report based on your topic.

- Summarize key points of papers - not an easy task

- If the papers are related, try to compare them in one section at the end

- Use a typical paper structure:

  Abstract -> Introduction -> Methodology -> Results -> Discussion -> Conclusion
Report - Abstract

● Summarize the paper
  ○ Introduction to the problem
  ○ How was the problem solved?
  ○ Short insight in the results
  ○ What is the impact of the paper?
Report - Introduction

- Describe the context
- What is the preexisting work?
- What does the preexisting work lack?
- How does this paper close the gap?
Report - Methodology

- Describe the mechanisms used to tackle the existing problem
- Lead the reader through the problem solving procedure
- Give arguments for the choice of methods
Report - Results

● Give an overview of the important results
● Add tables, graphs... if you have space
● Shortly comment on the figures
● Avoid phrases like: It is obvious from this graph that ...
Report - Discussion

● What do the results actually tell us?
● Compare the results with related work
● What are the limitations of the paper?
● How can the limitations be addressed?
Report - Conclusion

- Summary of the paper in 3-4 sentences
- What are the most interesting results?
- What is the impact of the paper?
Report - Grading

- Paper organization
- Language and grammar
- Subject knowledge
- Ability to summarize
- Proper bibliography and citations (!)
How to do your research

- Seminar - (kind of) simulation of scientific research
- Try to be independent
Individual Paper

- Each student has to search (e.g. Google Scholar) for an interesting topic based on his/her core paper topics.
- Students have to suggest me 4 topics at their meeting (Doodle).
- The publish year of suggested 4 topics should not be older than 2012.
- At the end of the meeting students will get their finalized individual paper.
- Tips: Citation, Conference and Authors are the important factor to chose a good paper. [1]

FAQ

- Allowed to miss 1 presentation day? Yes, if you have a very good reason.
  - Examples of good reason: health issues, schedule clashes at the Uni
  - Examples of bad reason: HiWi work, homework, football training, bad mood

- Can I set a meeting if I have problems with my papers?
  - Yes, but try to do as much as you can yourself.
Thesis possibilities

Need a guided research, BSc/MSc thesis topic? Or perhaps you have your own idea? Feel free to ask!