ITC8100 Seminar
(replaces ITX8040/ITX8230)

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Agenda

- Seminar overview
- Code of conduct
- Thesis prep notes

Seminar

- 10-15 minute presentation
- Problem statement
- (Initial) literature review
  - What sources are there?
  - What main points of view / theories / methods / results are there?
- Zoom in to one source and provide an overview and analysis of it

What not to do

- In exams and tests - using assistance or materials that are not specifically approved by the instructor (cheating, copying homework, etc.)
- Submitting someone else's work as your own
- Using someone else's thoughts, text, images, etc. without properly referencing it
- Re-submitting your own work to get double credit (except if it has been substantially improved)
- Taking the exam for someone else or letting someone take an exam for you
- Knowingly providing false information in research, applications (APEL/VÕTA), etc.
- Damaging the reputation of the university

- http://www.ttu.ee/infotehnoloogia-teaduskond/infotehnoloogia-teaduskond-1/it-tudengile/oppetookorraldus-3/vaaritu-kaitumise-menetlemise-kord/

What is a thesis?

- Bachelor
  - Apply given solution on a given problem
- MSc
  - Determine the problem and solution. Apply the solution to solve the problem
- PhD
  - Apply old solution to solve a new problem or create a new solution to solve an old problem

What is a thesis?

- Introduction
  - What is the general problem (background)?
  - What is the specific problem you will solve?
    - Hypothesis, problem specification, etc.
  - Why is the problem important?
  - How will you tackle the problem (methods, data sources, etc.)?
  - What are the constraints?
  - Ethical, legal, etc. considerations

What is a thesis?

- Related work
  - a.k.a. literature review
  - Who else has looked at this problem?
  - What solutions are out there?
  - Are there alternative solutions?
  - Is there any controversy?

What is a thesis?

- Method
  - What method do you use and why?
  - How suitable is it for your problem?
  - How does it work?
  - How do you get the data?
  - Is the data good (enough)?
  - How do you present the findings?
  - Quantitative vs Qualitative
  - Visualization

What is a thesis?

- Analysis / problem solving
  - The meat of the thesis!
  - Show how you solve the problem, given the available data and the chosen method
  - Discuss the findings
    - Are they applicable in a wider context?
    - Was the method suitable?
    - Is the problem solved?

What is a thesis?

- Summary/conclusion/future work
  - No new info!
  - Briefly review problem, method, findings.
  - Indicate any future work
    - to improve current work
    - to be based on the current work

What is a thesis?

- References (!)
  - Cite sources in text where appropriate
  - Provide full bibliography at the end
- Graphs, tables, annexes
- Formatting
- Language
  - Proper English
  - Academic/professional writing style

Research question/problem

- Pick something that interests you
- Must not have a trivial solution or an easily available standard solution
- Ideally based on a real world need

Thesis type examples

- Developing a new solution that solves an existing problem
  - New way to automatically detect bugs in code
- Proving/disproving a hypothesis
- Educational/training materials
  - For example, training materials for a hands-on course

Thesis type examples

- Theoretical
  - For example, attack trees and how to apply them in security modeling

- Quantitative analysis, data mining
  - For example, mining a known set of logs for malicious activity patterns using standard and customized algorithms

- Qualitative analysis
  - For example, comparison of national cyber security strategies

Supervisor

- Must have at least Master's degree
  - can be from a different discipline
- If the supervisor is not from TUT, then a co-supervisor will be assigned
- Should have personal experience or knowledge of the topic

Supervisor

- Strategies for finding a supervisor:
  - Comes with a topic (see wiki)
  - Talk to instructors at TUT or UT
  - Solve a problem related to your work – get a co-supervisor from work (MSc or higher)
- Two-way commitment

Planning

- You will never have enough time
- Plan backward from the deadline
- Set specific milestones every few weeks
- Leave 30-50% reserve time
- Weekly or bi-weekly status reports

Deadlines

- Defending in June 2017:
  - 01 DEC – problem statement (~2 pages)
  - 01 MAY – thesis submission for review
  - ~14 MAY – feedback from reviewer
  - ~21 MAY – final submission of the thesis (TBA)
  - Early June – thesis defence
- Moodle: ained.ttu.ee

Thesis defence

- Reviewer's role
- Dress code: formal or semi-formal
- Be on time (at least 30 minutes early)
- Time keeping
  - Clock / watch / friend in the audience
- Test any special tech requirements (audio, video, cables, etc.)

Thesis defence

- Short intro of the defender, topic, supervisor and reviewer
- Your presentation (15 minutes)
- Questions from the reviewer
  - Written review will be available to you before the defence, including the preliminary grade proposal
- Questions from the committee
- Questions from the audience
- Supervisor's opinion and grade proposal

Thesis defence

- Practice, practice, practice!
- BLUF
- Keep the slides simple and professional
- You only have 15 minutes

Questions?