

TDDE48: Mobile Networks

Linköping University, Sweden, Fall 2025

Niklas Carlsson
<https://www.ida.liu.se/~nikca89/>

People involved in course



- Examiner and lecturer
 - Niklas Carlsson, Professor



- Course secretary
 - Annelie Almquist



- Director of studies
 - Patrick Lambrix, Professor + Division Head

Research group overview

Group leader: Niklas Carlsson (Professor)

Interest/aims: Provide system insights and solutions that help deliver tomorrow's services both effectively and securely

Methodologies: E.g., measurement, mathematical modeling, optimization, system design, real-world experiments, data analytics, statistical methods

Current team



Niklas Alireza David Karol Carl Magnus Sheyda Minxing Ethan Somiya

Recent Alumni: Minh-ha (PhD 2024), Alireza (PhD 2024), August (RA + MSc 2024)

New team members (joined in March/April 2025)...



Sehrish



Navya

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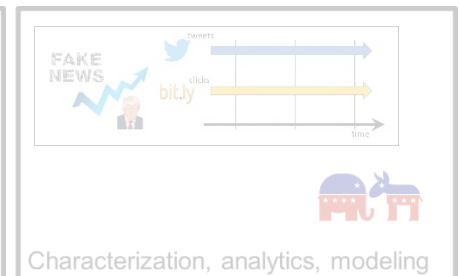
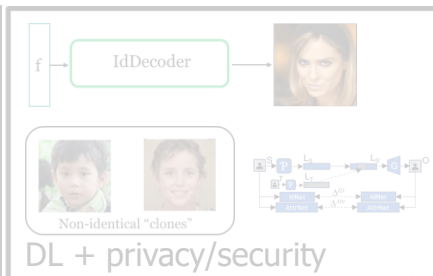
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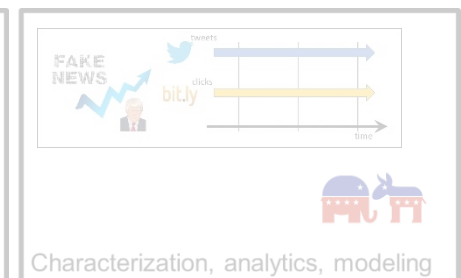
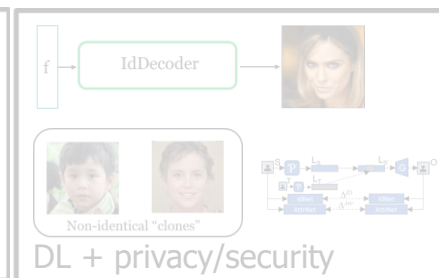
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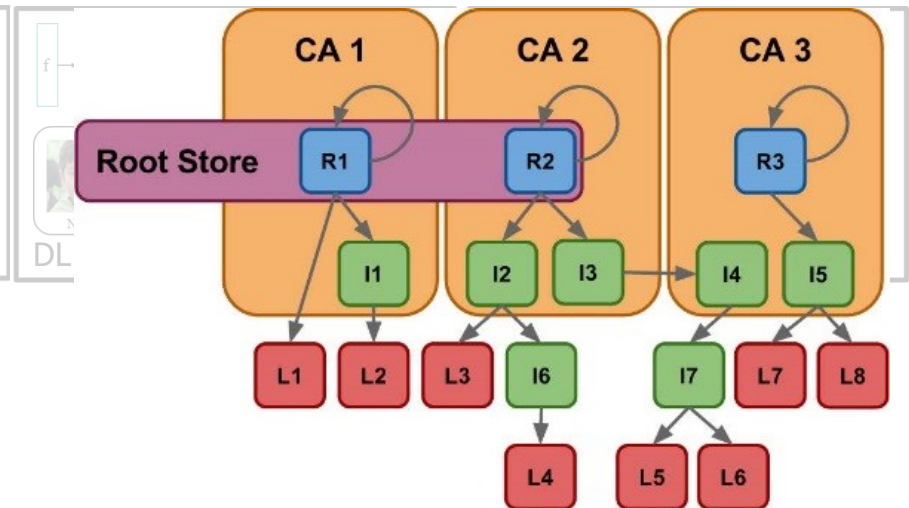
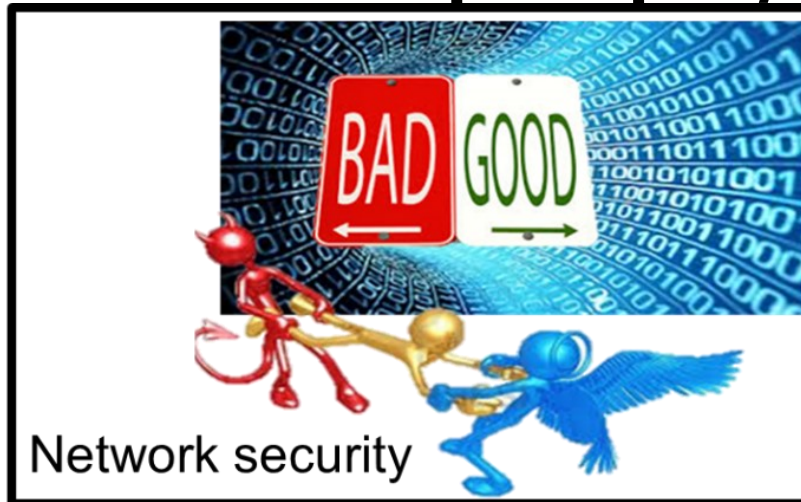
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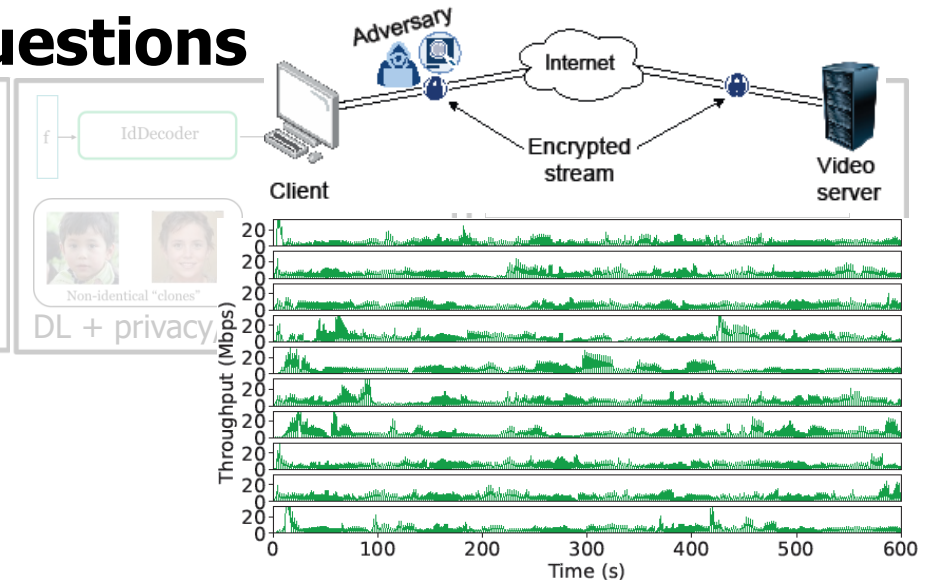
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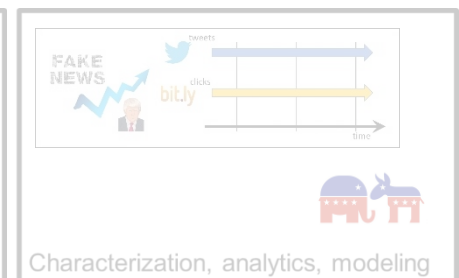
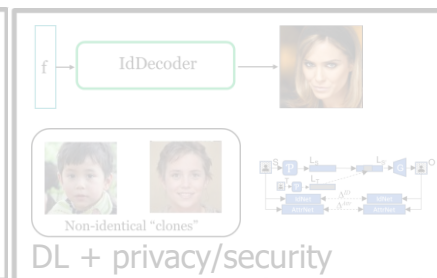
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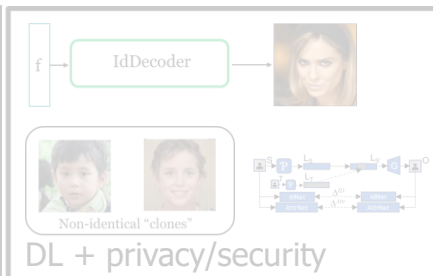
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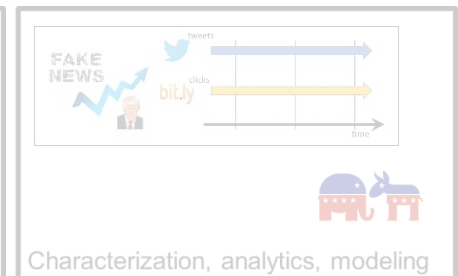
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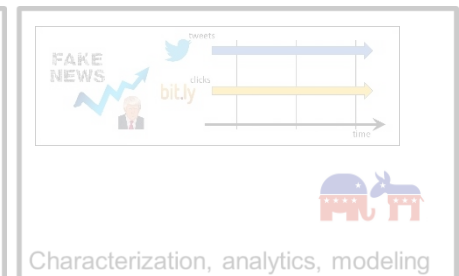
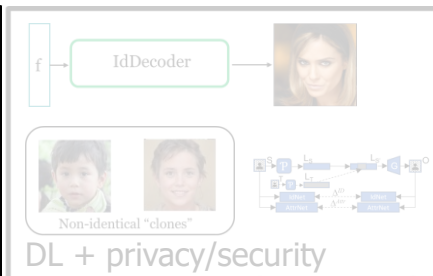
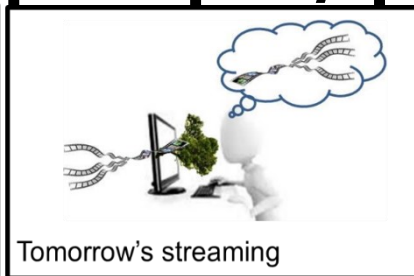
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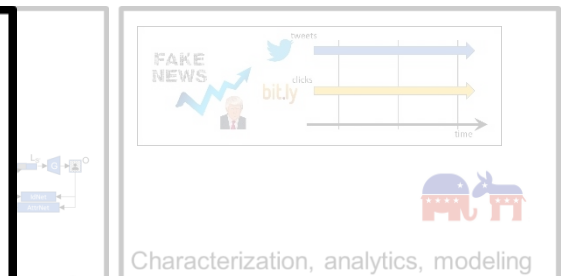
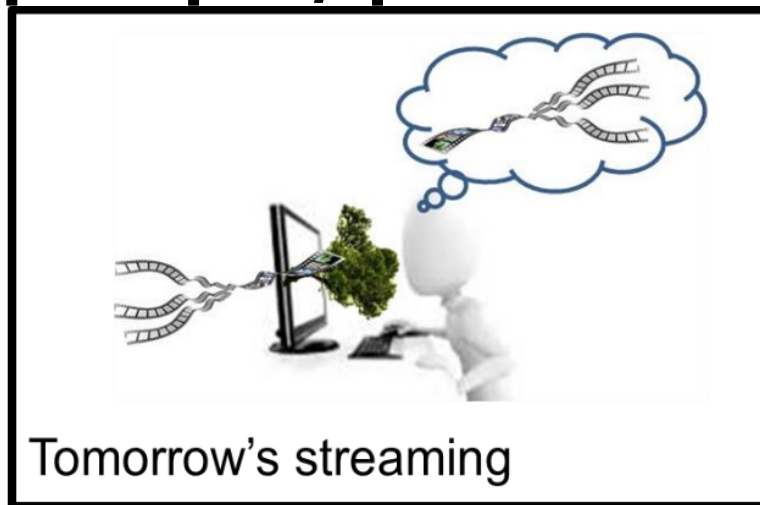
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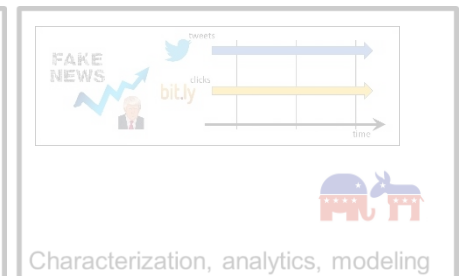
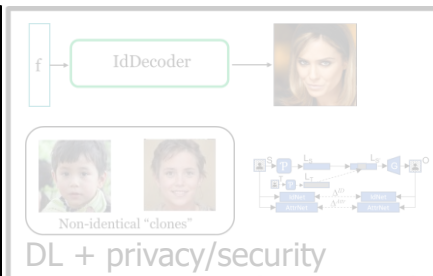
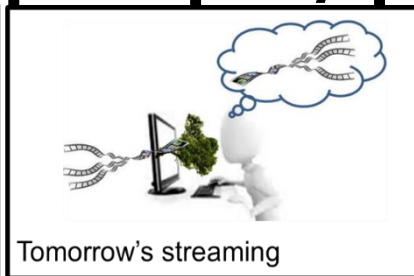
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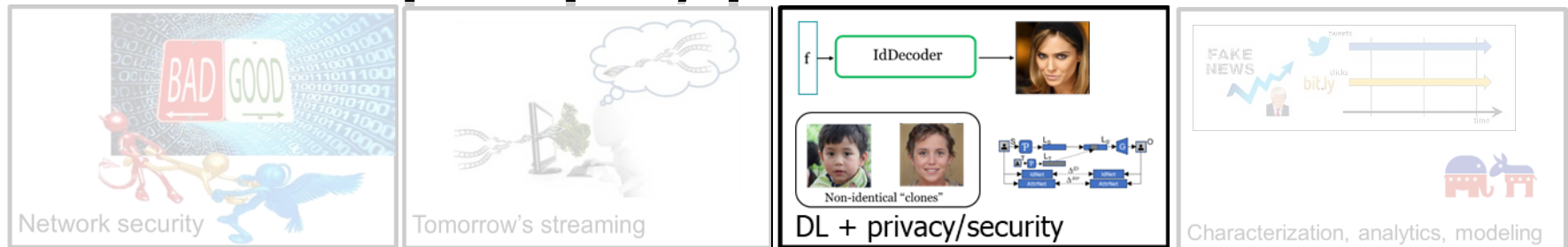
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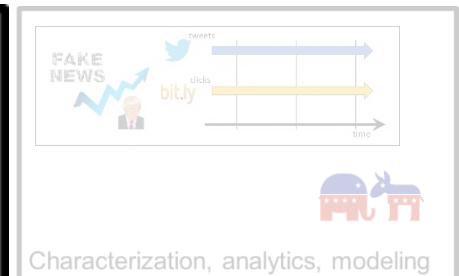
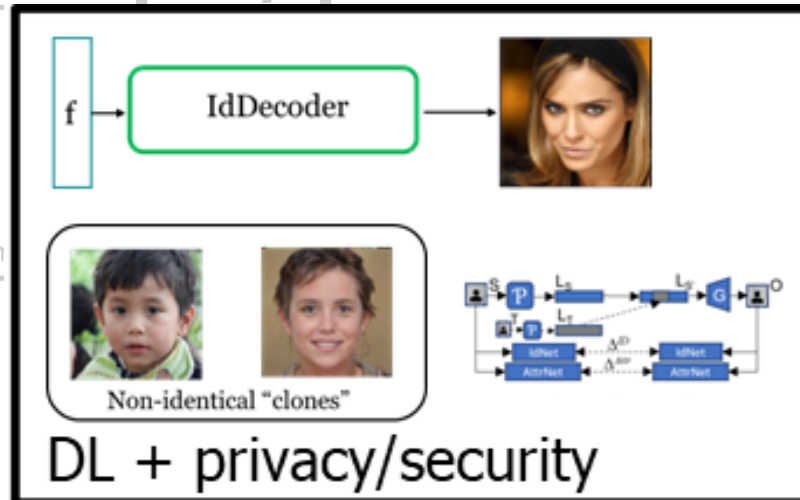
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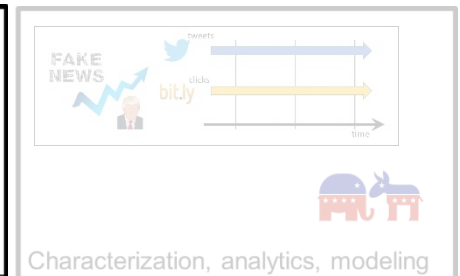
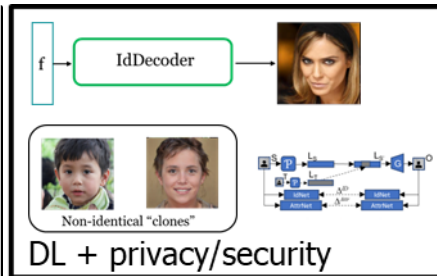
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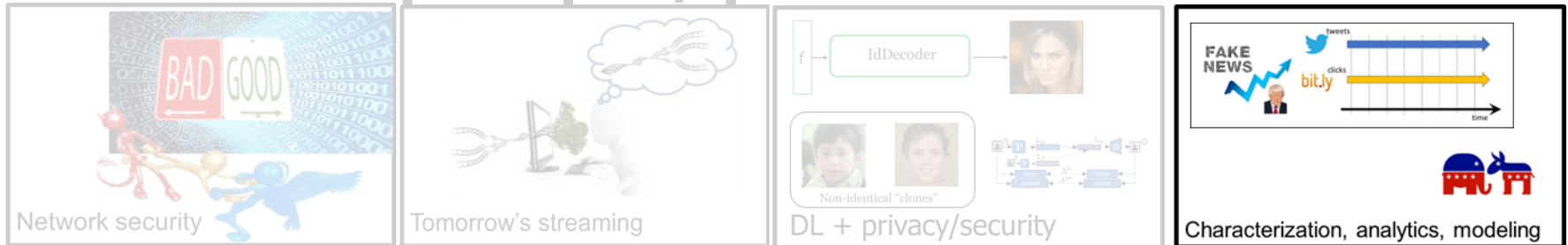
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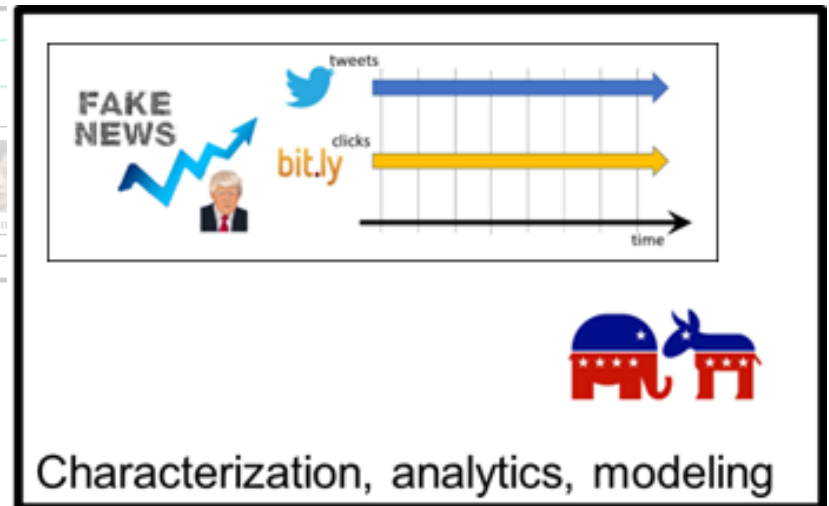
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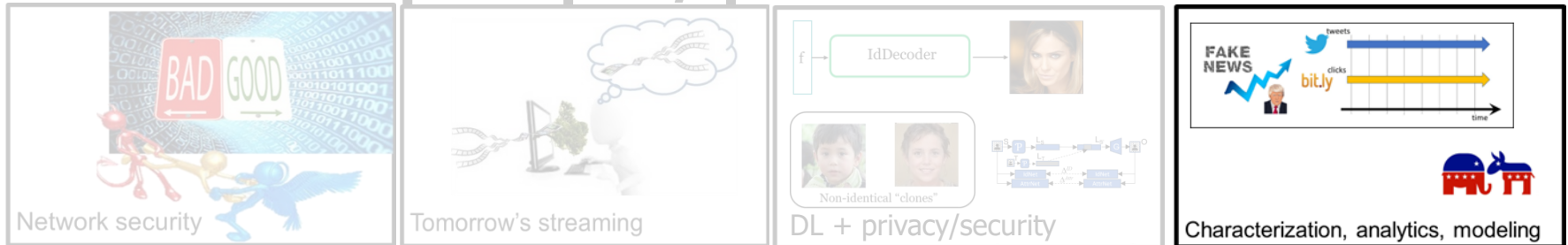
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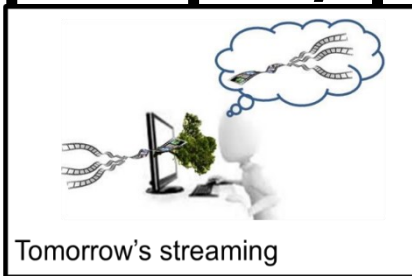
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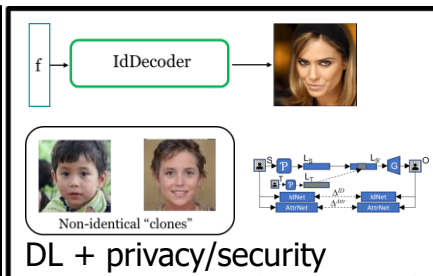
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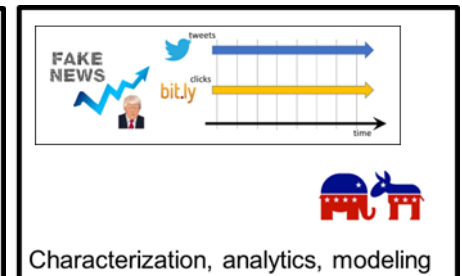
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My expectations

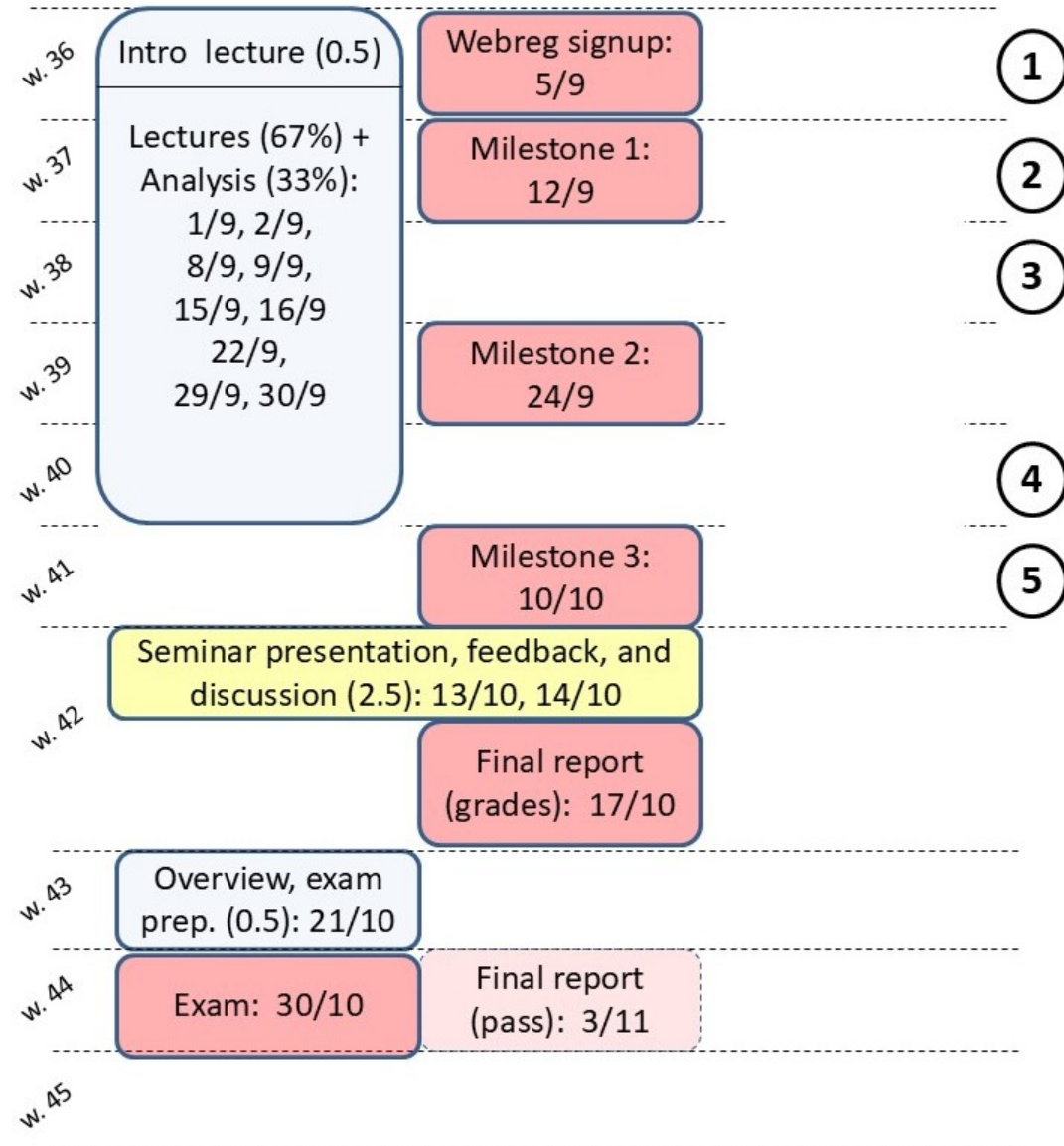
- Attend lectures, identify information sources, and read ...
 - Lots of content; e.g., textbooks, research articles
 - Not time to cover everything during lectures
- Work hard
 - Attend and pay attention during lectures
 - Read after class
 - Make sure you **understand** all the material
- Please follow deadlines and office hours

What to expect; what is covered?

- Design principles for mobile systems
 - Conceptual view
- Design, resource, and performance tradeoffs in mobile systems
 - General working knowledge of protocols/applications
 - Detailed knowledge of selected protocols/applications
- Glimpse into the future
 - Emerging trends and technologies

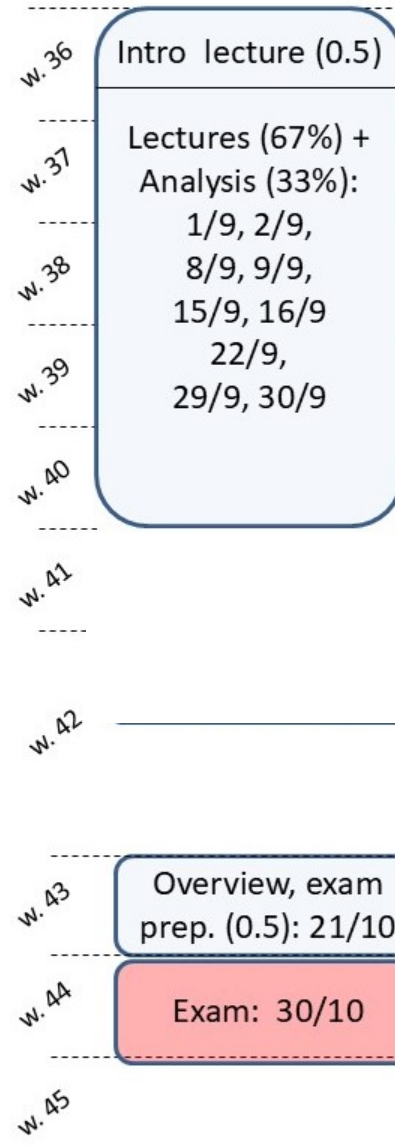
Course Overview

- Nine lectures: Mix of theory and analysis of systems
 - A written exam
- Project: Three milestones, a written report, and a seminar presentation
- Scenarios used in PBL groups, projects, and some analysis lectures
- See website for more information ...



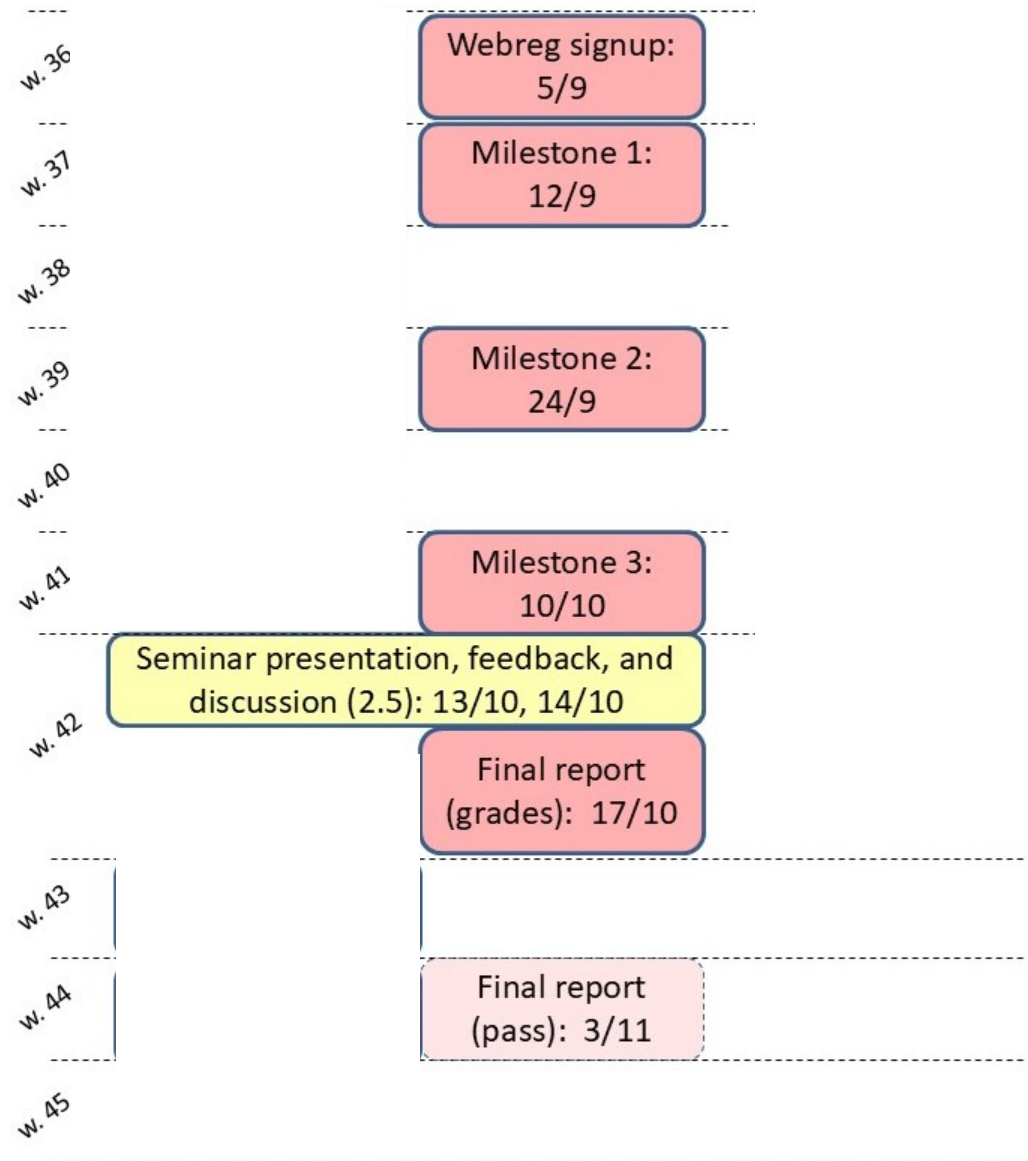
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w. 40

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w. 43

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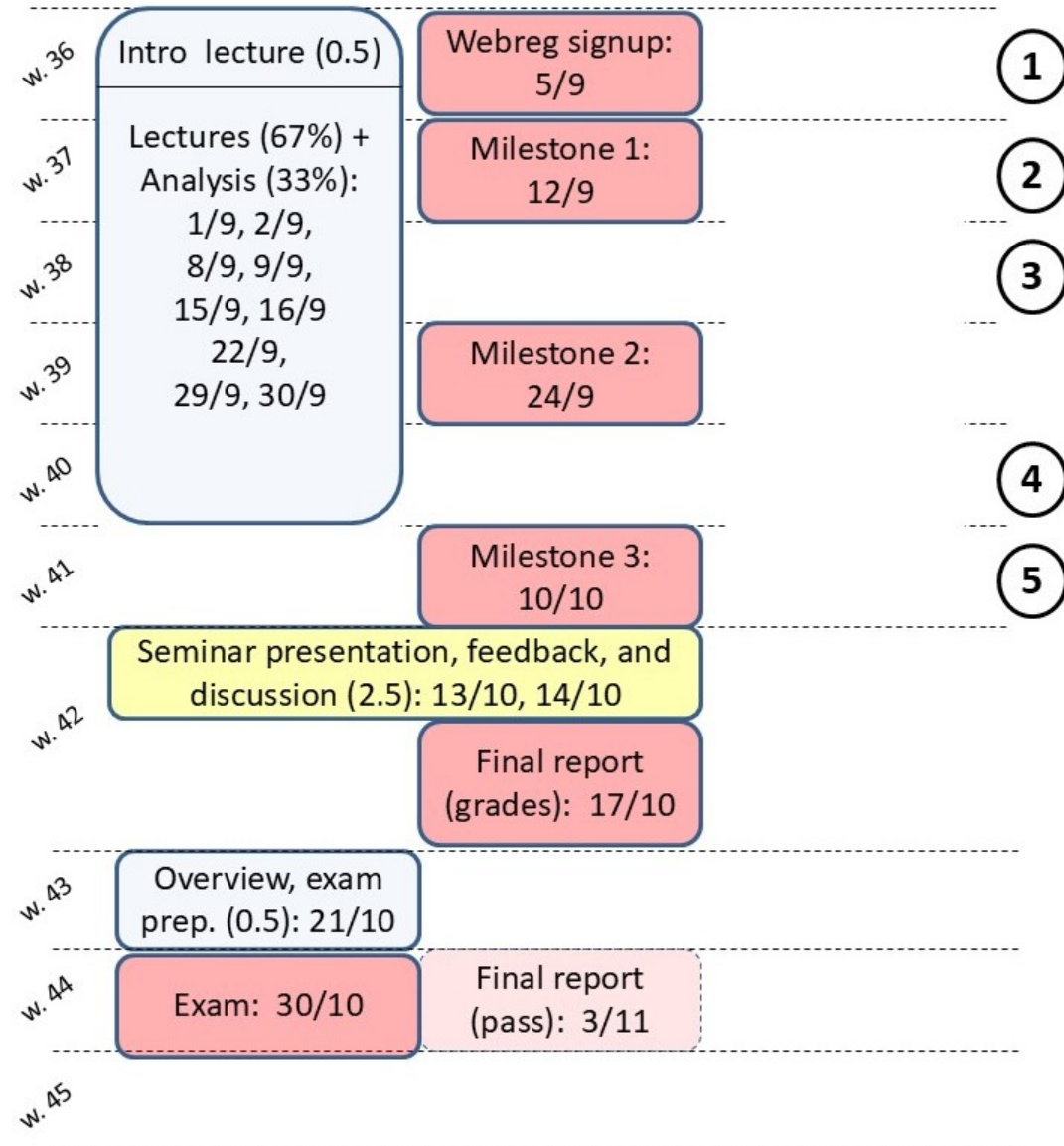
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Past **student** feedback/evaluation(s)

- Lintek: Last year's course evaluation
 - Put together by BGs + 3 students summarizing

Summary from 2022-2024 [Lintek]:

- Kursen är enligt majoriteten av studenterna nyttig och lärorik inför kandidatprojektet. (Good. Part of my goal.)
- 2022: Projektet är det momentet som tycks vara mest givande och övrig examination ifrågasätts huruvida den är nödvändig. (Disagree ... But reflected in bonus points.)
- Kursen bygger tydligt på tidigare nätverkskurs vilket uppskattas. (Ok.)
- Många studenter uttryckte att föreläsningarna var väldigt informationsrika till den mån att det ibland var svårt att ta till sig detta. (Heterogeneous group. Aim is that you will gain significant insights and knowledge. Lectures will therefore include a mix of breadth + depth. Will not lower the expectations ...)
- 2022: Tyvärr känner många studenter att vinjetterna inte utnyttjades som tänkt i och med att många av de ämnena vinjetterna tog upp var orelaterade och för djupgående för att kunna diskutera i grupp. (Designed with purpose to build real-world skills. Better motivate since 2023 ...)

Past **student** feedback/evaluation(s)

- Evaluate: Last year's course evaluation
 - 8/39 answered (mostly well-like, relevant, time on upper side ...)
 - Also include some negatives from 3 years ago (... to avoid 2-year cycle)
- Positive "success" examples
 - The project, peer-feedback, bonus points, valuable knowledge/skills
- Suggested improvements lectures [combined last 3 years]
 - 2022: Recorded lectures (**No, because ...**)
 - More interactive/interesting with quizzes or polls (**Easier in person ...**)
 - A lot of information in lectures (**Yes, ...**)
 - Less detailed information on slides (**Always try to find balance**)
 - More examples + a slower pace would make it easier (**Always try to find balance**)
 - My goal is that you (as a group) will build as good **understanding** as possible (e.g., of tradeoffs) and that effort will be rewarded
- Suggested improvement for projects [not last year, but ...]
 - Want more/earlier project guidance from the examiner (**Typically discuss in lectures + some group feedback + peer review**)

(more) student feedback ...

- Scenarios/vinjetter [2-year cycle in feedback]
 - Vinjetter based on project subjects. Difficulty discussing one groups project, while making it relevant for everyone. Instead of the vinjetter, we mostly decided for ourselves what we wanted to do ... (Please take your responsibility and practice the skills targeted here. The world is not homogenous.)
 - 2022: Too open ended + more like optimization (By design, PBL. Motivate.)
- Comments on exam [No new feedback]
 - Difficulty answering some exam questions with only slides + book (See previous **balancing** question; so please attend lectures. Yes, you will need to spend time building a deeper understanding and connecting the pieces. Please allocate time + study together ...)
 - Most of the learning came from studying to the exam itself (Yes, this is per design; see above questions + work with old exams ...)
 - More old exams available (No, but see IDA's student office ...) 1-30

(yet more) student feedback ...

- Miscellaneous [from 3 years ago]
 - Nice to get one or two examination questions per BG meeting where we can discuss the answers (but only if there are concrete answers).
` `This would yield a more practical feel for the subject.” (Not what I want you to spend the BGs doing ... BUT good to discuss as a group. Also, no “example” answers will be provided.)
 - Try to have more on-campus activities. Helps motivation.
(Understood. Can almost only suggest emulating the in-person interaction outside the classroom; e.g., by meeting in groups on-line or in person, depending on current restrictions, as often as possible.)

Student question during class

■ Why English?

- Terminology and information/books etc. in English
- Easier/better help from Google etc.
- Examiner/instructor do better job in English
- Prepare you for the international job market
- Can of course still ask questions in Swedish (if you are uncomfortable asking in English)