Magnus Almgren, Marina Papatriantafilou

DAT300/DIT615: LECTURE 1 ADMINSTRATIVE DETAILS

Support Team

- Examiners
  - Magnus Almgren
  - Marina Papatriantafilou
- Course Support Team
  - Wissam Aoudi, Karl Bäckström, Joris van Rooij, Charalampos Stylianopoulos
  - + others depending on project expertise

Details on web page:
http://www.cse.chalmers.se/edu/course/DAT300/

Course Slots

- Always check **Timeedit**
- Mondays, Wednesdays 1000-1145*
- … in EL42, EL43, ES61
- Some exceptions though:
  - Thursday, 2019-09-05, 1315-1500
  - ***+ presentation slots in exam week***

Check regularly web page + **SLACK** for up-to-date info:
http://www.cse.chalmers.se/edu/course/DAT300/

*(sometimes shorter)

What is the course about?

Example Presentations

- Wissam Aoudi, Chalmers: Security and Critical infrastructure
- Vincenzo Gulisano, Chalmers: Intro to Data Streaming
- Ismail Butun, Chalmers: IoT and Security

- Jimmy Ehnberg (Chalmers): Power Systems
- Anders Skoogh (Chalmers): Data aspects in production systems

- Göran Ericsson, SvK Head of Research and Development
- Rikard Bodforss: security from an industrial perspective
- Ericssonx2, Volvo, Flexlink, Gothenburg Energy, etc.

plus presentations by you

SVENSKA KRAFTNÄT

National grid

A modern society needs a good electricity supply in order to function effectively. The national grid (i.e. the system of 400 - 220 kV lines) has been built up in order to transmit large volumes of energy over great distances and functions like a motorway for electrical power.

Only the largest production facilities and the regional grids are connected to the national grid.

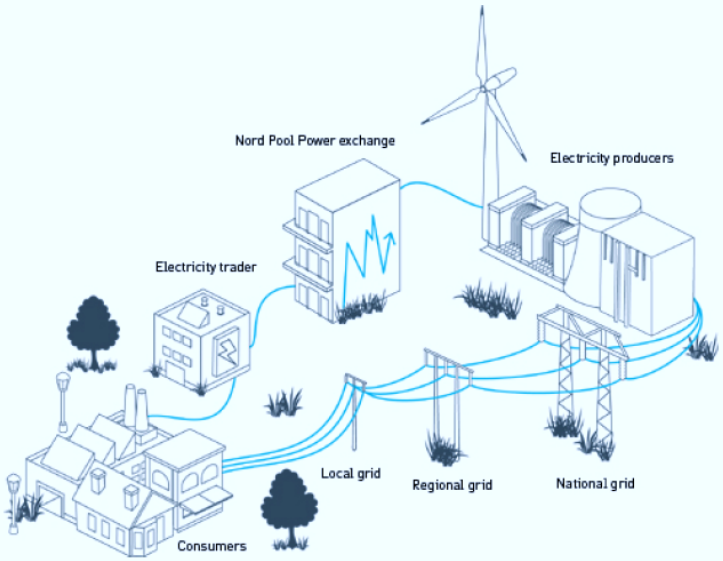
Svenska kraftnät manages Sweden's national grid, which includes about 15, 000 km transmission lines, substations and international 400 and 220 kvV interconnectors. Efficiency, safety and the long-term planning are three primary aims. Expansion planning, maintenance and operational supervision are required to fulfil this.

Download a map of the power transmission network in the nordic countries 2013.

The national grid and other networks

Electricity is transported from the major power stations to the regional electricity networks (40-130 kV) via the national grid (220 kV and 400 kV), which is owned by the Swedish state and managed by Svenska Kraftnät.

From the regional networks, electricity is transported via local networks (40 kV or less) to electricity consumers.



The diagram above shows the route of electricity from the producer (power station) via the national grid, regional network, local network and finally to the electricity consumer. The producers sell their electricity on the Nord Pool power exchange or to electricity suppliers. Suppliers sell the electricity on to the consumer.

The network owner uses the local network to distribute the electricity in the mains to the consumer.

Electricity suppliers and network owners are different kinds of companies. If you have changed your supplier then you get two bills, one from the supplier detailing the cost of the electrical energy, and one from the network owner for transmission of the electricity on the supply system.

Göteborg Energi

Privat | Företag

Text: A A A | Anpassa | English

Om oss | Kontakt | Mina energisidor

Produkter och priser | Projekt och etableringar | Kundservice

Sök

VINN STARTPLATSER TILL LILLA OCH MELLAN GÖTEBORGSVARVET!

Logga in

Mina energisidor

Ok

Vad kan vi hjälpa dig med?

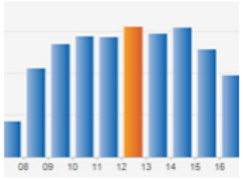
- Har du frågor om fakturan?
- Vill du ha e-faktura?
- Vill du göra felanmälan?
- Dags att flytta?
- Lediga jobb
- Vill du köpa el?

Som Västsveriges ledande energiföretag erbjuder vi **el**, **elnät**, **fjärrvärme** och **gas**.

Bra Miljöval

När du vill minska din miljöpåverkan

Nu har du genom vårt erbjudande Fjärrvärme märkt med Bra Miljöval möjlighet att ytterligare markera att du vill minska din miljöpåverkan.



Följ din elanvändning på timnivå

Genom den kostnadsfria tjänsten ”Din elanvändning” kan du nu följa din elförbrukning per månad, dygn eller timma

GoBiGas - en biogassatsning för ett hållbart Göteborg

Här ska vi producera biogas genom förgasning av skogsråvara. Se filmerna och läs mer om projektet här.

Dags att teckna nytt elavtal?

Hos DinEl kan du sätta ihop ditt eget avtal, efter dina egna preferenser och boendesituation.

Nyheter & pressreleaser

> Fler nyheter

2013-02-27 > Information om rivning och ombyggnation av Rosenlundsverket

2013-02-26 > Vinnare av EM-biljetter i februari

2013-02-26 > Göteborg Energi deltar i nationellt forskningsprogram inom elkraftteknik

Avbrottsinformation

- Elnät
- Fjärrvärme
- Fjärrkyla
- Gas

Course Details

Course Details

Course Details

Course Details

Passing the course

- Major activity: Project
  - Faculty & Industry presentations to give breadth
  - Choosing papers to read to support project work
    - Training in presentation of complex ideas
    - Team work
  - Actively listening and discussing other people's ideas

Passing the course

- Major activity: Project
  - Faculty & Industry presentation
  - Choosing papers to read to sup
    - Training in presentation of compl
    - Team work
  - Actively listening and discussing other people's

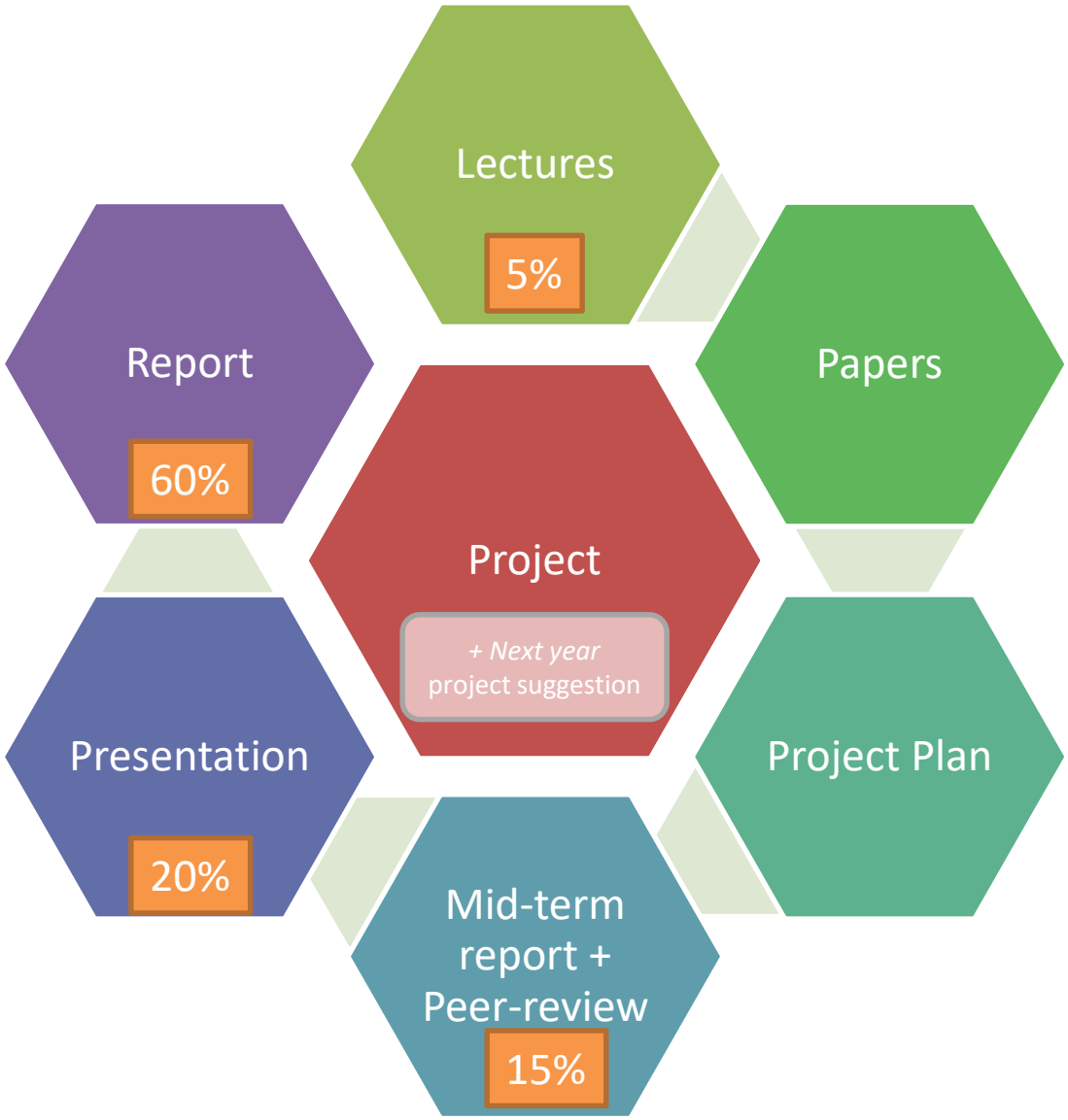
Idea

-- Understand complex ideas
-- Go into depth in the paper
-- Explain to your peers

Mandatory Participation

The active participation is important for the presentations, so we have mandatory lectures. If you miss lectures (or are late), we will ask you to read additional articles and write a report.

Your grade (1)


Lectures
5%
Report
60%
Papers
Project
+ Next year
project suggestion
Presentation
20%
Project Plan
Mid-term
report +
Peer-review
15%

Your grade (2)

- … will mainly depend on the group activities
  - Completed project and its quality
    - Project report
    - Presentations (final + progress reports)
    - DEMO (!)
- … but also on individual efforts
    - Individual mid-term progress report
    - Peer-review of another project
    - Value-creation for others: *Project Suggestion*
    - Active participation in lectures and presentations (occasional quizzes)

List of deadlines

- Projects
  - W1 Choose group + project
  - W2 Planning report + list of supporting papers (schedule, resources, goals)
  - W4 (**individually)** 1--2 pages: project + reflections; (team) outline of report
  - W5 (**individually)** 2 pages: peer-review
  - end Successfully complete project
    - Written report; + **demo** & presentation
    - (individually) project suggestion

List of deadlines

- Projects
  - W1
  - W2 papers
  - W4 reflections;
  - W5
  - end
    - Wri
    - (individually) project suggestion

Descriptions of what we ask for,
or actual examples are on box.com.

- README.txt
- Group Example/*
- Group Example/Submissions/*
- …

List of deadlines: Other reporting

Every week, write a **short** summary of what your team has done and if you **need our help. → BOX**

Every other week, we want you to shortly present project status and current challenges.

We will also ask for contribution report for you personally, and for the overall team

Course Tools

We use **slack** for most communications	• Sign up at: <email Magnus>
You need to join **box**, and then ask us to allow you access to the course directory	• Post your email in “sign-up-box” on Slack
You need access to code repository (**Github**)	• Post your email in “sign-up-github” on Slack
Course submissions should be “dropped”@	• a web interface: see “Group Example/Submissions/README.txt”)

Communication Channels

SLACK (daily conversations)

- Is a way for you to discuss in the group and allows us to follow what you do. You will create
  - one group channel
  - + as many private channels as you want
- We will also be able to use this for instant communication: **lecture cancelled.**

BOX (easily to share documents)

- We share templates with you of assignments.
- You submit / get feedback

Web page (mostly used initially)

- List of lectures / download slides
- List of projects

CANVAS (not used)

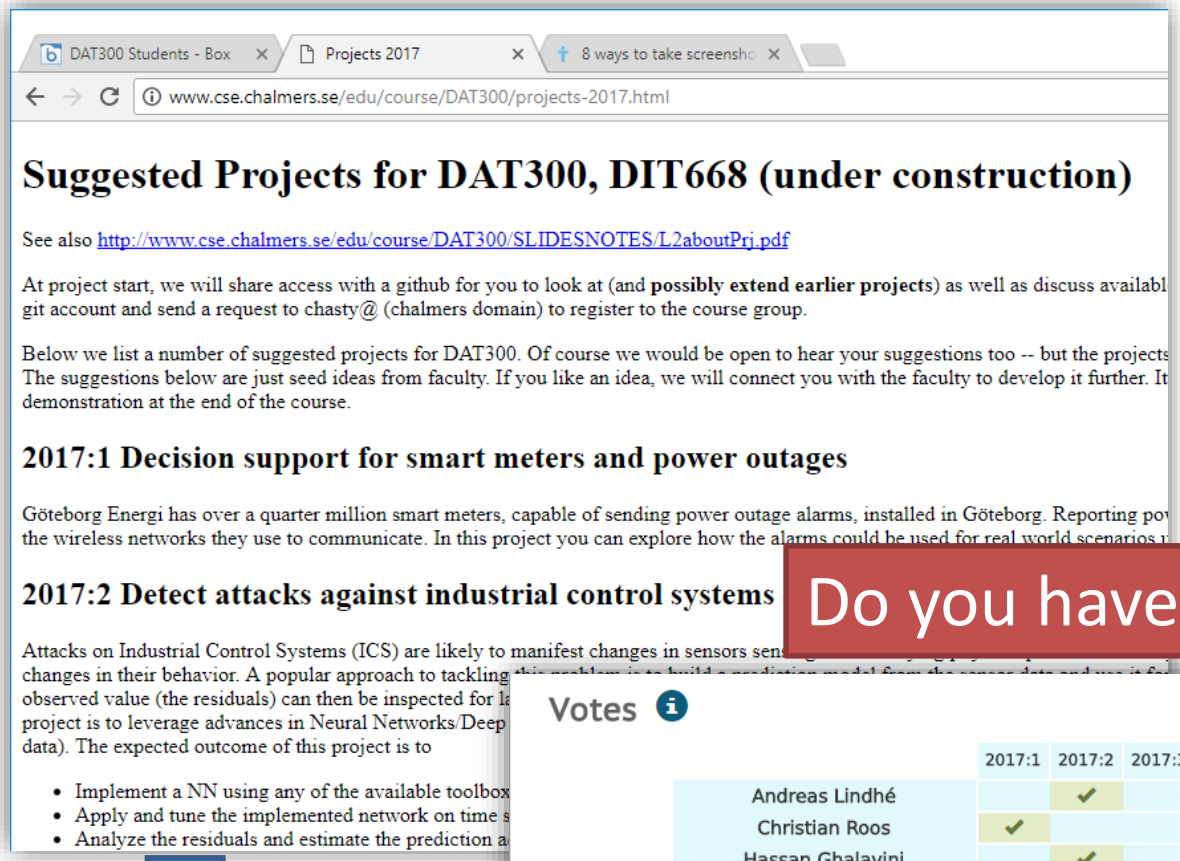
Entrepreneurship/Experimental learning @ Chalmers

Activities

Group work	•self-awareness & ability to collaborate
Open assignments	•open-ended projects: learn to cope with uncertainty + take initiative
External recipients	•Develop courage, understand usability
Present to others	•Ability to present yourself + your ideas
Identify and find the necessary resources	•Creativity, mobilizing resources
Creating values for others	•Write your own project description
Peer assessment	•Feedback on outline •End of course “salaries”
Why?	•*To increase employability. Many employers are interested in entrepreneurial competences.* •*Fun!*

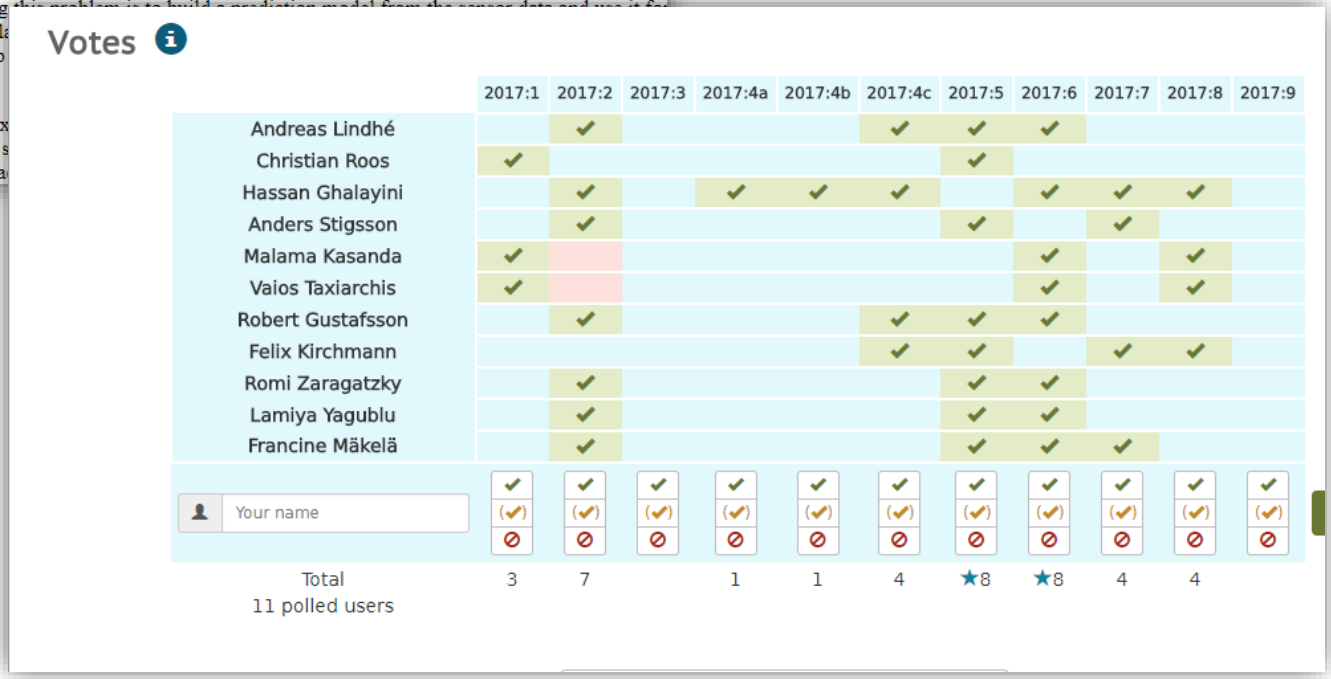
Projects

- Suggestions on the home page
  - http://www.cse.chalmers.se/edu/course/DAT300/
  - Github repository
  - Video of former project presentation (Thursday) as an example

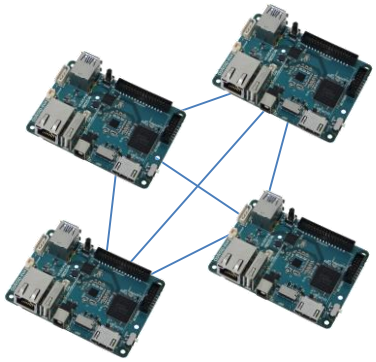


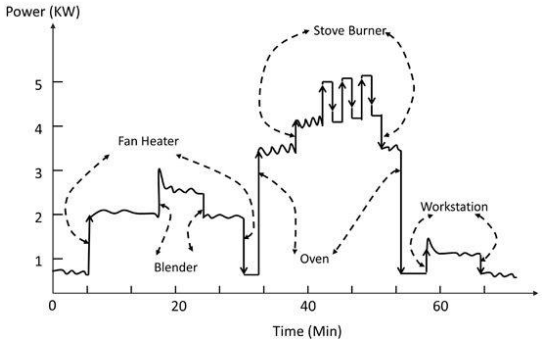
Do you have the right courses?

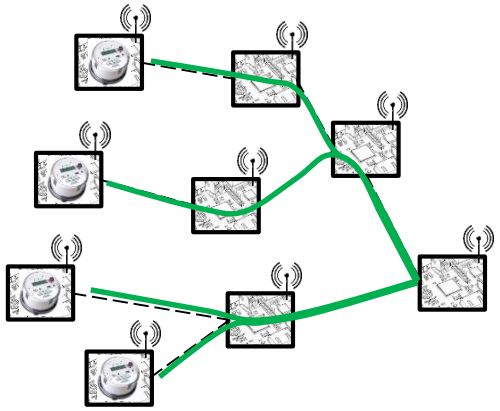
SLACK



Many different “types” of projects in different domains







Snort, Packet Matching and GPUs

IoT and Anomaly Detection (deep learning)

Reinforcement learning: fuzzing

IDS on a device

IDS in the cloud

A comprehensive IoT IDS

Streaming Prediction

Accelerated parallel machine learning

Online visualizations of live queries

Mobile video streamer

Predicting house prices

Project Ideas 2019

Course Reps: Speak to us

- MPALG Felix Jansson
  MPCSN Niklas Jonsson
  MPCSN Christoffer Olsson
  MPCSN Tejaswini Priyanka R Ravi Kumar M
  MPALG Simon Sundström