Advanced Visual Data Analysis

Programme course

6 credits

Avancerad visuell dataanalys

TNM098

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science
and Media Technology

Date determined
2017-01-25

Main field of study
Media Technology and Engineering

Course level
Second cycle

Advancement level
A1X

Course offered for
- Media Technology and Engineering, M Sc in Engineering
- Computer Science, Master's programme

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Skills in programming and computer graphics programming, mathematics, course Information Visualization or equivalent.

Intended learning outcomes
After completing the course the student should be able to:

- Examine new, complex data sets and identify relevant features which might be extracted
- Select and apply advanced algorithmic methods for analysis of large complex data sets to determine valuable results
- Address issues with very large data sets and develop approaches to the 'big data' problem
- Display extracted relevant information from such data sets using standard visualization methods

Course content
This course builds upon the course Information Visualization, with a focus on the data modelling, mining and analysis techniques with are the foundation of modern visual data analysis methodology. Such methods are becoming very important as the scale of data available for analysis expands, leading to the so-called 'big data' problem affecting business, healthcare, government, science and industry.

Teaching and working methods
The course is composed of lectures, laboratory assignments, seminar sessions and a substantial project work.

Examination

PRA1	Project assignment	5 credits	U, 3, 4, 5
LAB1	Laboratory work	1 credits	U, G

Grades
Four-grade scale, LiU, U, 3, 4, 5

Department
Institutionen för teknik och naturvetenskap

Director of Studies or equivalent
Camilla Forsell

Examiner
Matthew Cooper

Education components
Preliminary scheduled hours: 48 h
Recommended self-study hours: 112 h

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.