

COURSE ANALYSIS, undergraduate course

Second cycle courses, EECS School, KTH , from 2018

An asterix (*) denotes non-compulsory data.

Course data

Course name: Machine Learning for Media Technology
Course ID: DM1590
Credits: 7.5
Credits per module: 7.5
Time period for course: VT2021
Teachers: Bob L. T. Sturm and André Holzapfel
Examiner: Bob L. T. Sturm
Classroom hours: Almost twice a week for 2 hours each, five labs
Nr of registered students: 68
Examination rate, in %: 98.5

Goals

Global course goals:

To train media technology students to work with, develop and evaluate machine learning applications.

How the course design helps to fulfill these goals: Lectures, labs, a group project and written report

Pedagogical development - I

Changes made since previous time course was given:

1. Weekly exercises were created and graded
2. Final project must use both supervised and unsupervised learning methods
3. All labs were uploaded at the beginning of the course
4. Much of the handwritten notes for the course were cast as python notebooks

Course evaluation; comments from students

Based on the anonymous questionnaire.

Evaluation response rate: 16/68 = 23%

Overall student view*

Positive comments: "Föreläsningarna var väldigt bra, kändes alltid givande och intressant och framförallt delarna om 'skitsnack' var bra. Slutprojektet kändes kul för att vi fick välja själva vad vi ville göra och planera, till skillnad från labbarna som då är mer guidade."

"Läraren och innehållet av föreläsningarna. Att förstå faktiska tillämpningar och vad som skitsnack är väldigt hälsosamt när man lär sig ett ämne."

"Projektet (best part). Trots att det ofta var svårt att förstå vad man gjorde hur resultat ska tolkas och utvärderas ledde projektet till jag fick en djupare förståelse för metoder och koncept."

Negative comments: "Labbar tog ganska lång tid att göra, och speciellt att förstå vad man faktiskt gör."

"it would be nice to have more help labs. I'd rather have 2 x 2h per lab than 1 x 3h. It would also be nice if there would be another lab assistant so you could get help faster. (Alessandro is great tho) Another thing regarding the labs is that it would be better with a

queue system where you can see how many others that are in line before you.”

”Labbinstruktionerna var flera gånger väldigt otydliga och svåra att förstå, och det var inte alltid som ett svar från Bob klargjorde det hela. Personligen tyckte jag att labbarna var lite simpla. De hade kunnat vara lite mer utmanande. Oftast tog en labb 2-4 h att göra, och majoriteten av tiden gick åt till att tyda labbpeken eller att lära sig numpy.”

Pre-knowledge, comments*

Course design, comments*: “it would be much appreciated if there would be examples of previous projects or other examples that shows us what kind of ideas are doable.”

Literature, comments: ”I really liked the literature and found especially "introduction to machine learning with Python" helpful! So to read the literature.”

”The digital book had each chapter as one page, making it difficult to see each subchapter. Maybe don't give reading recommendations pagewise but instead as subchapter names?”

Examination, comments: No exam in this course. Final project and presentation in groups of 3-4. “The project felt very unstructured. I would have liked to have a better idea of what would actually entail earlier on so you could have kept it in mind throughout the course. I think that could have resulted in more solid thought-out projects. Also more scheduled help-sessions for the project!”

Particularly interesting* comments: see above

Course teacher's impressions from the evaluation

Comments: The student observations align with our own as to what changes should be made in the next edition. The impression from the evaluation is that our changes to the course were successful.

Course teacher's summary

Overall view: The course ran smoothly online. The weekly exercises worked out well.

Positive comments: Attendance was good throughout the course, even though it was all on-line.

Negative comments: Examples of final projects should be made available.

View on pre-knowledge*: Necessary pre-requisites should be reduced to programming and statistics.

View on course design*: I agree with the students that the labs should be made more of a focus for learning, e.g., two 2hr sessions for each lab vs. one 3hr session.

View on course material: The material is timely and appropriate for the learning objectives. The labs provided hands-on experience.

View on examination: The project quality was by and large high, given the time devoted to that portion.

Pedagogical development - II

Outcome of course changes made since last time course was given:

1. Weekly exercises were created and graded: This worked out well, and will be repeated.
2. Final project must use both supervised and unsupervised learning methods. The instruction on requirements was much clearer.

3. All labs were uploaded at the beginning of the course. Students appreciated this.
4. Much of the handwritten notes for the course were cast as python notebooks. More needs to be done in this direction.

Changes to be made before next time course is given:

5. Theoretical lectures will be made more practical, e.g., especially in the unsupervised learning portion.
6. Each 3hr lab session will be made as two 2hr lab sessions.
7. Examples of final projects will be posted at the course start.
8. Pre-requisites will be reduced to “Programming and Scientific Computing corresponding to DD1318; SF1919 Probability Theory and Statistics; or equivalent”

Other

Comments*