MODULE REPORT

Module	CS3244 - MACHINE LEARNING
Academic Year/Sem	2021/2022 - Sem 1
Department	COMPUTER SCIENCE
Faculty	SCHOOL OF COMPUTING

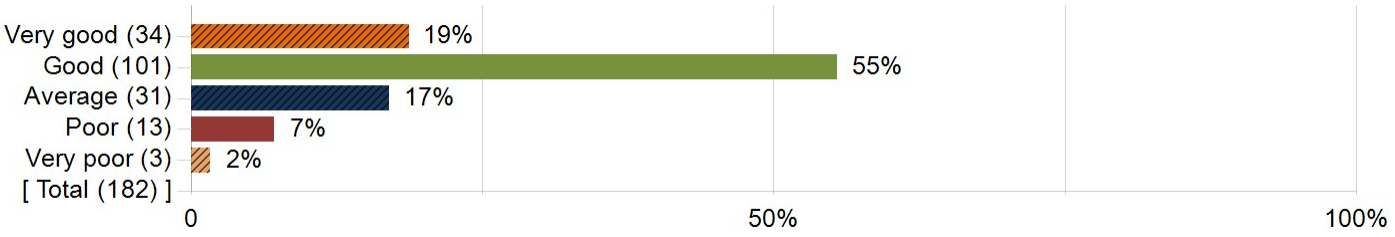
Note: Class Size = Invited; Response Size = Responded; Response Rate = Response Ratio

Raters	Student
Responded	183
Invited	291
Response Ratio	63%

1. Overall opinion of the module

Distribution of Responses

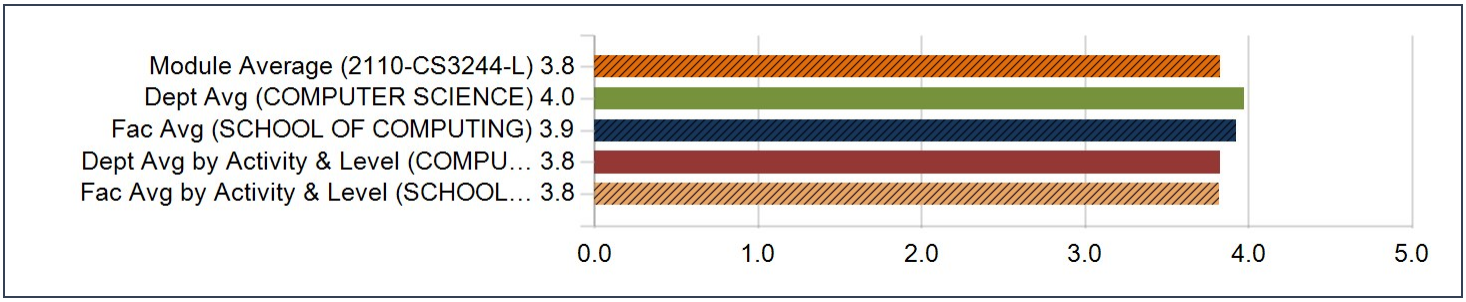
What is your overall opinion of the module?



Statistics	Value
Response Count	182
Mean	3.8
Standard Deviation	0.9

Rating Scores

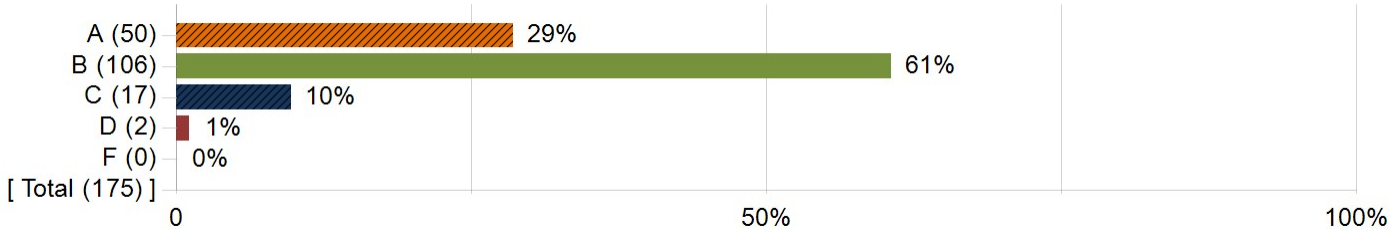
Question	Module Average (2110-CS3244-L)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 3000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 3000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
What is your overall opinion of the module?	3.8	0.9	4.0	0.9	3.9	0.9	3.8	0.9	3.8	0.9



2. Expected Grade

Distribution of Responses

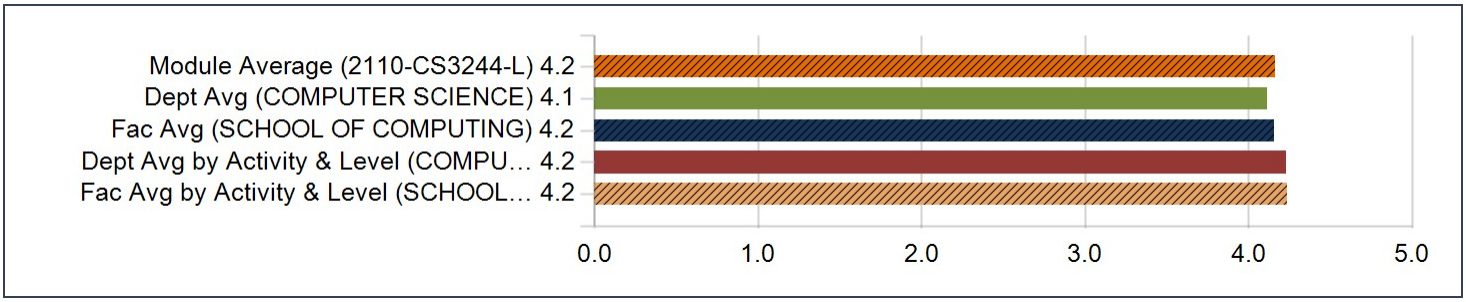
The grade that I am most likely to get in the module is:



Statistics	Value
Response Count	175
Mean	4.2
Standard Deviation	0.6

Rating Scores

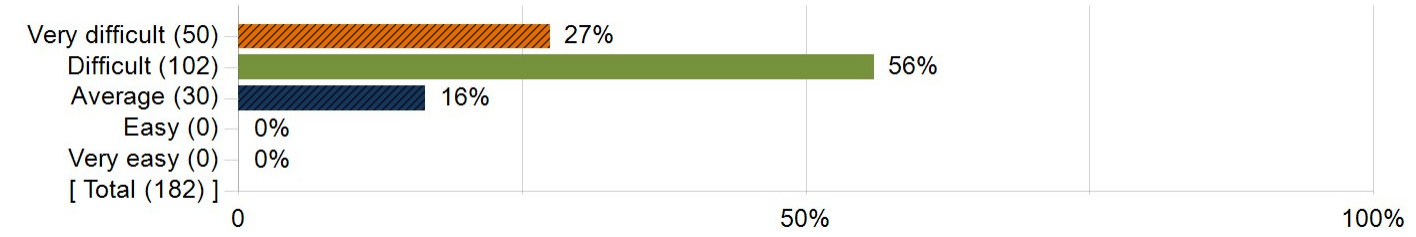
Question	Module Average (2110-CS3244-L)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 3000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 3000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
The grade that I am most likely to get in the module is:	4.2	0.6	4.1	0.8	4.2	0.7	4.2	0.6	4.2	0.6



3. Difficulty Level of the module

Distribution of Responses

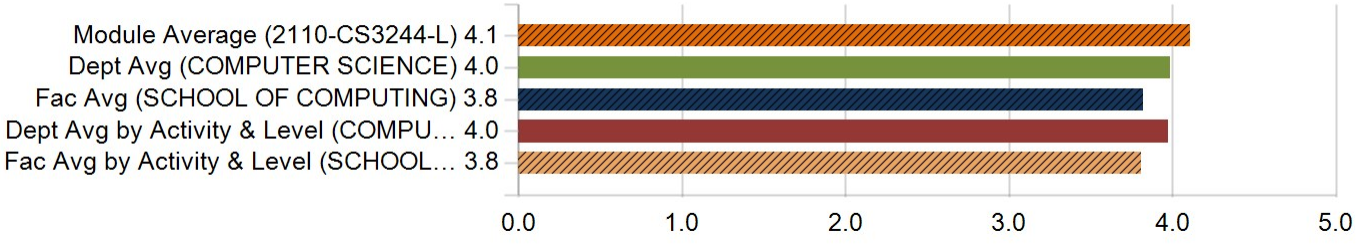
I rate this module as:



Statistics	Value
Response Count	182
Mean	4.1
Standard Deviation	0.7

Rating Scores

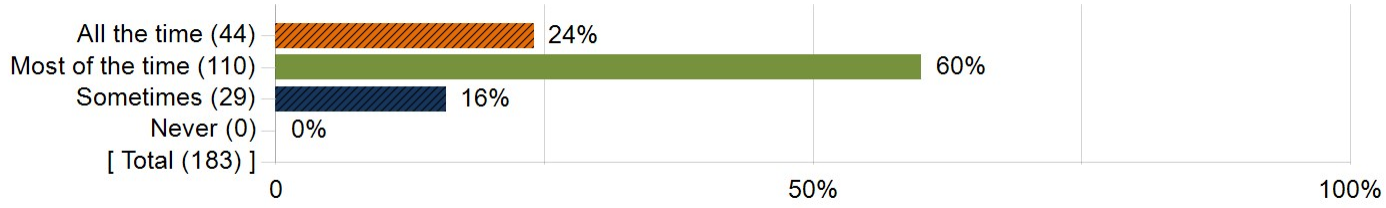
Question	Module Average (2110-CS3244-L)		Dept Avg (COMPUTER SCIENCE)		Fac Avg (SCHOOL OF COMPUTING)		Dept Avg by Activity & Level (COMPUTER SCIENCE-LECTURE (Level 3000))		Fac Avg by Activity & Level (SCHOOL OF COMPUTING-LECTURE (Level 3000))	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
I rate this module as:	4.1	0.7	4.0	0.8	3.8	0.8	4.0	0.8	3.8	0.9



MODULE LEARNING OUTCOMES

1. Understand the basic concepts of machine learning.

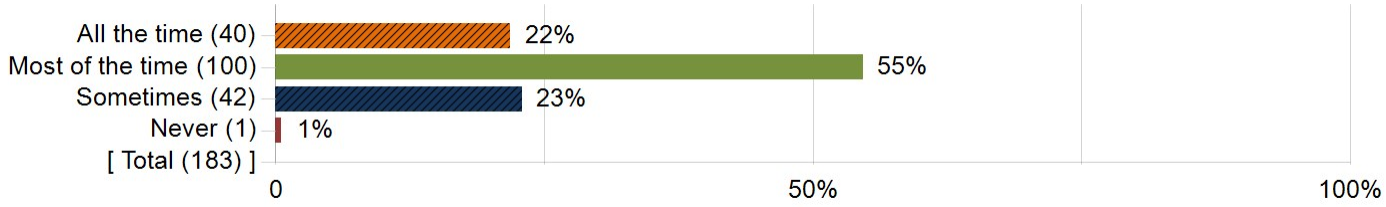
Understand the basic concepts of machine learning.



Statistics	Value
Response Count	183
Mean	3.1
Standard Deviation	0.6

2. Apply an appropriate machine learning algorithm for a given problem.

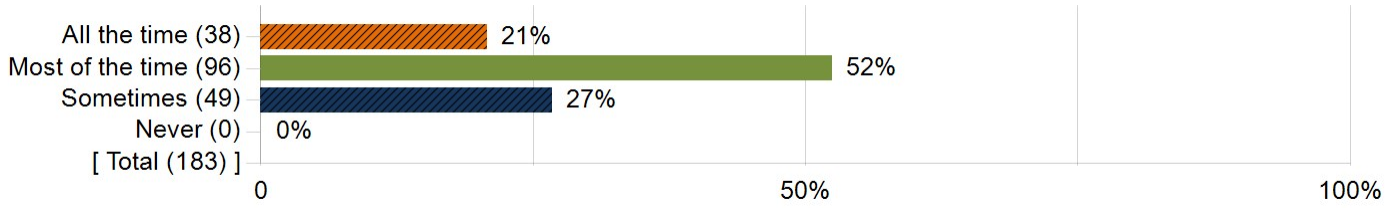
Apply an appropriate machine learning algorithm for a given problem.



Statistics	Value
Response Count	183
Mean	3.0
Standard Deviation	0.7

3. Evaluate the performance of a machine learning solution.

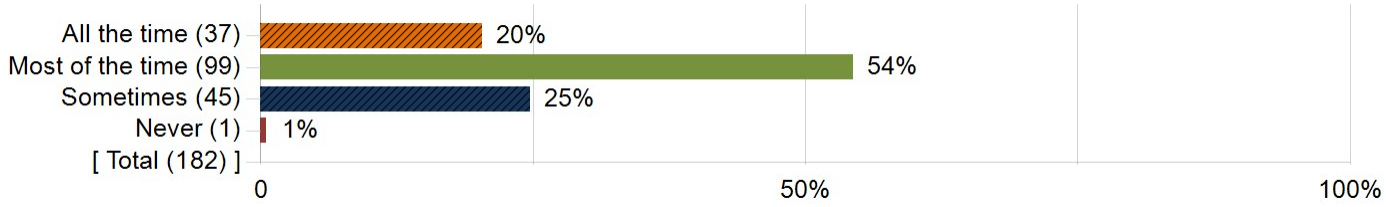
Evaluate the performance of a machine learning solution.



Statistics	Value
Response Count	183
Mean	2.9
Standard Deviation	0.7

4. Use a machine learning tool to carry out machine learning experiments.

Use a machine learning tool to carry out machine learning experiments.



Statistics	Value
Response Count	182
Mean	2.9
Standard Deviation	0.7

WHAT I LIKE / DISLIKE ABOUT THE MODULE

What I liked about the module:

Comments
Taught me fundamentals of machine learning
Good introduction module
no coding in exams and exams are mcq and mrq format
Learn the basics of ML
Interesting content
Teaches theoretical concepts Does an overview of key ML topics without going into too much detail
Interesting content
Good overview of the paradigms
NIL
Eyeopening comprehensive introduction to machine learning!
This module covers very important Machine Learning knowledge, which is very useful not only for academic but also for the real world.
Great introduction to, and breadth of coverage of machine learning; i didn't find the module overly challenging, it was like the right amount of difficulty and exploration (through the assignments); i learnt about the various tech stacks used for ML
– Good intro to ML
Application of Machine Learning models on real–world examples
Interesting content, Digestable introduction to fascinating world of ML, Including Ethics was a nice touch
Easy to follow along
It's very applicable to real life job especially in the field of data science
decent amount of breadth with sufficient resources despite pretty steep learning curve, teaching was pretty decent too, slack interactions were really nice
Great introduction course for beginners to learn about machine learning
I like how I am trained to think critically instead of trying to chase high performance for the ML models.
Content covered a broad range.
Lectures were great, I took this module essentially to understand the gist of ML after foraying into this field myself, and I feel like the module has served its purpose.
Super interesting and related to real world, appreciate that the profs made the module not extremely math heavy.
Taught a lot of machine learning concepts which is good for a machine learning beginners.

Comments
All the concepts and content are appealing and useful.
interesting to learn about machine learning
–
explained underlying math concepts to help with understanding/appreciation of the different models
Interesting mod introducing the broad topics of ml.
Understand machine learning pipeline
A very good hands–on experience on machine learning
Coherent content. Good overall flow.
Free form project is very nice. Allows for many options that might be interesting.
the concepts
Midterms was manageable.
It was really interesting to learn about the ML algos, i really did learn alot out of this module
Certainly interesting content. I appreciated the attempt at regular Q&A/AMA sessions, even if they ended up compressing the content into much too small a space (in my opinion). Light workload in the first half of the semester was very, very much appreciated.
Interactive module components and environment. I enjoyed the discussions on slack, being able to ask questions and get responses quickly, and having questions to respond to to think about the content during lecture. I appreciated the lively environment of many other students asking questions that I myself might also have wondered about. I enjoyed the interactive nature of tutorials, where we actually get to answer questions and test our knowledge on kahoot quizzes. It is quite clear to me that the module contents have been somewhat re–ordered to make more sense and be easier to pick up, which I appreciate.
Good breadth and depth into different aspects of ML. Allow students to build a good foundation in ML.
Quite practical, fairly broad, covers a wide range of ML topics. Project component helps us to get some practical experience in, and is fairly well–managed.
It is interesting Quality teaching staff Evenness of grading proportions High interaction level with students
interactive
Very interactive, students are kept engaged through in–lecture exercises
Covers a wide range of topics, does not dwell too much on the math; math not really relevant unless you want to research and build new stuff, but most existing solutions already work well enough
I think the machine learning techniques are interesting.
learnt a lot about machine learning, made concepts much clearer compared to self learnt
Very hands on and fun lecture. Lecturers care about the students.
–
Covers a lot of interesting machine learning concepts
The project allows us to gain knowledge outside class.
The content is relevant and up–to–date
Learning a lot of interesting and new concepts

What I did not like about the module:

Comments
Very mathematical and difficult
Project work not as structured
the lectures are too long on monday and it would often clash with my next lesson
Some guided path for the project would be better.
Would prefer lab assignments (like lab 1) compared to a project. Details about project grading seemed unprepared and were

Comments
finalized and released quite late
Feels like the content of the module is a bit jumbled up at times.
Project is like swimming in the dark, grading criteria comes out very late so previous work dosen't seem to match the grading criteria. If the project is more guided, with clearly defined milestones BY the teaching team, it would be much more fruitful. The types of questions asked during lecture and exam (e.g. what are the weights of this layer) don't seem to be very important to know, in the sense that it is very unlikely that you'll need ever do this in the future and also dosen't help to build intuition.
Nil
The pairing of group project seems unbalance, there are students that do not even know how to run simple code and basically does nothing...
–
NIL
Vast differences between students, hard for the weaker students to catch up as the smarter students were always asking questions that were out of the module or from their prior knowledge. Project is unevenly distributed as some are better at coding and would take a shorter time to code, as compared to the weaker students.
Project requirement was vague. Some concepts were abstract and difficult to understand while not much coding knowledge was taught.
Nothing.
I really liked the module :)
The pace at times felt very rushed, maybe because of the intense and dense information of the course.
– More examples and more descriptive slides so that they can be read on its own. – The concepts require us to read up on our own first or else hard to understand things in lecture.
Lack of explanation of terms when defined, assumed knowledge.
Bellcurve in Assessments are too skewed
I do understand that making the exams multiple choice makes the assessment easier. However, it's also making the bell curve worse (which means that getting 1 mark reduced could shift your position significantly)
some form of midterm feedback, and assessments could probably make do with short answer questions, tutorial questions feel a little disjointed from lecture and probably could be more code focused
I did not like how unclear the instructions were for the project, but the constantly–revised FAQ really helped. Also project TA Abhinav was rather unreachable, which was quite a constraint for the project progress in terms of gathering feedback and making improvements.
The expectations of the project was a bit too general.
Tutorials were horrible, I don't really understand what's going on half the time, the questions are wildly different from lecture content, and the answer keys are not very helpful in understanding the answers.
Module tries to squeeze too many concepts into itself. So I walk away from this module with approximate knowledge on many things but not adapt at any. Also, the module has 3 hours of lecture but decides to shove everything into the 2 hours without time for students to take a break within the lectures to absorb their supposedly heavy module. All in the name of using the 1 hour time slot for AMA, which they still ate into. This module is great for students who have ML experience but heavily punishes those who do not. Projects should also have some helping guidelines instead of a survey with the rest being a black–box. This puts students/groups who have little to no experience in the subject at a great disadvantage.
I hate breakout rooms, it was useless and a waste of time. Most room are usually dead silent and just plain awkward. Prefer a discussion on slack instead where those who like to discuss can share their answers and those who prefer to listen can read all the answers. Project rubrics could have come out earlier and maybe having some suggested milestones (goals by a certain date) could help. Colab ram running out is a huge issue. The link to get $70 google colab credits were difficult to redeem (I had issues redeeming and I know a few other friends also could not redeem). I heard of people running their colab on sunfire server maybe a tutorial on how to set this up in case students' colabs run out of ram could be extremely helpful.
The work load is a little high but is still manageable.
The project has not been a great experience for me. I have been stressed out over it constantly partly due to a group member that is bossy and demanding. Group meetings have never been a "meeting" and was only a time to allocate tasks. I am not a CS student and therefore do not actively code in my semesters hence adding on to the extra stress as I had to keep up with my CS groupmates

Comments
as well as meet their expectations. I have been mentally and physically distressed and cannot wait for this module to be over.
– Difficulty of lecture notes and tutorial questions were not very aligned – Difficult to see applications of the complex theory behind CNN and RNN at times – Grading scheme and marking rubrics of project and exams could be released earlier
Project instructions were unclear. The whole module just felt poorly planned. Many ad–hoc decision made and the learning schedule changed.
taught alot of concepts and were left to figure out how the different concepts can be applied (in the form of a code) would be great to have a sample baseline code for the models discussed
EVerything. Lesson end late. EVerything is a mess. Unclear instructions all the itme
sometimes they thought that the students already have some pre–knowledge about the material (but actually some of us don't) and they would go through the material very fast
For the inexperienced people like myself, doing the project just seems to be beating around in the dark.
–
limited chance to apply a lot of the knowledge learnt in practical way
The topics were not structure well with the order of lectures not coinciding the way machine learning project is structure. Eg. Data preprocessing was covered in week 7 and 8 when the project started in week 5.
nil
Heavy workload, lack of guidance
Tough mathematical concepts which are hard to understand
Lecture slides late upload, unable to read beforehand.
Felt like some topics were just briefly touched on, yet questions in tutorials expected deep understanding of the topic. Felt that the content was quite hard to follow at times.
grading systems, some questions weigh more than others, does not provide fair chance of scoring if I don't know certain concepts well
–some of the concepts quite hard to follow especially without prior knowledge
The project is quite unclear and not really explained on what is expected etc etc.
MCQ high number of marks. I had a couple of careless mistakes upon reviewing, and because of those my marks were quite poor. This wouldn't be the case if the test was open ended
too steep learning curve many concepts not well explained and tutorials dont help either many tutorial questions and things mentioned in lecture dont match
There is really a lot of content in this module. The way it's often squished into the two–hour lecture slot on Monday rather than using all three hours can often make it go by intimidatingly fast and makes it hard to pick up. The project does not seem handled well. It feels like we're given a dataset and very broadly just told to go forth and conduct machine learning. Would appreciate a bit more direction on what we could do, because otherwise it feels like sort of idly tweaking levers and knobs and watching numbers change with no discernible aim.
The design of the project, especially in a mostly–online semester, makes groupwork pretty challenging. Given the long deadline and relatively low weightage, most of my group basically wanted to leave it to the last two weeks, whereas the profs were advising us to do work every week, update our TAs, finish early etc. At the same time, the lack of interim check means there was no reason I could give the group to get them to complete work any earlier. I feel like a lot of this comes about from giving ML beginners an open topic and little help – the average student has no gauge of how long it will take or what is required. I also don't feel like providing the option to debate our groupmates about marks distribution is the best way to address issues within the group. Most issues should be able to be resolved in a less extreme way without having to make everyone confrontational and upset. The midterm being easier "because students are stressed from the online semester" is very poor reasoning. Instead I saw that people around me getting 40+/60 and saying "oh looks like I'm doing ok in this module" which should not be their takeaway from an easy paper! I think this also contributed to many of my group not really having solid ML foundations since they didn't feel the need to study very hard, and in turn not being able to complete the project in a theoretically sound way. There is no way to change this from the teaching team side, but some of my worst experiences in this module are from my classmates. The interactive design of the module relies upon the idea that most students would be participative, but it really sucks to be placed in a breakout room with 5+ other people who refuse to have a discussion with you. These moments felt like a waste of

Comments
time and made me sit around awkwardly rather than actually have a good discussion.
Math/notation not always clearly explained... Lecture slides had quite a few errors (especially in the 2nd half of the module) Tutorial questions are not well–set – often beyond the scope of what was taught in the lecture (heavy on the math), or phrased strangely/vaguely, or had errors
It tries to introduce basic math concepts for ML but the explanation is done in a way that is confusing, even though I am a Data Science student who has taken some Math modules related to the math introduced in the course. Since it is generally theory, then perhaps the content can just be theory and perhaps more coding? We can study the math and gain dept in other higher level modules that are not introductory
Active participation. The same few people every lecture and tutorial will always wayang and have some question, kinda disgusting
It is very difficult to understand and there are many things to understand.
Content after midterms was much heavier, would be good if the spread of content can be more even before and after midterms.
Workload of project is too heavy. Theoretical knowledge is not an emphasis. This is a CS module and theory of machine learning is expected to be an emphasis, not projects.
Hard, a bit disorganized.
Math is hard
– Last minute instructions – Badly structured lecture flow – Confusing slides – Tutorials are way harder than what is discussed in lectures
slides(notes) are brief yet expects us to infer a lot. this module feels rather unstructured
Does not know how to set questions. Assignment questions are vague but its your fault if you do not interpret it the right way. They penalised me for giving a correct answer during the midterm. One midterm question relied on having the tutorial next to you. If you did not, you would not be able to get the correct answer.
The content is very hard and I do not know how much of the math I need to know
Too much breadth, very difficult to follow if you do not have prior experience or exposure
The amount of math in the 2nd half of the semester is very hard to understand