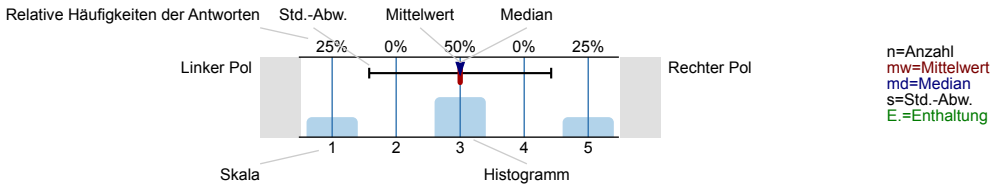
Matthias Carl Laupichler

Advanced Machine Learning (03/24) ()
Erfasste Fragebögen = 7

Auswertungsteil der geschlossenen Fragen

Legende

Fragetext



1. Questions about the course (1)

1.1) The difficulty of the lecture part of the course (i.e., theoretical input by instructors) is…

n=7

Far too low	0%
A little too low	0%
Just right	57,1%
A little too high	42,9%
Far too high	0%

1.2) The difficulty of the exercise part of the course (e.g. programming exercises in python) is…

n=7

Far too low	0%
A little too low	0%
Just right	71,4%
A little too high	28,6%
Far too high	0%

1.3) The pace of the course is…

n=7

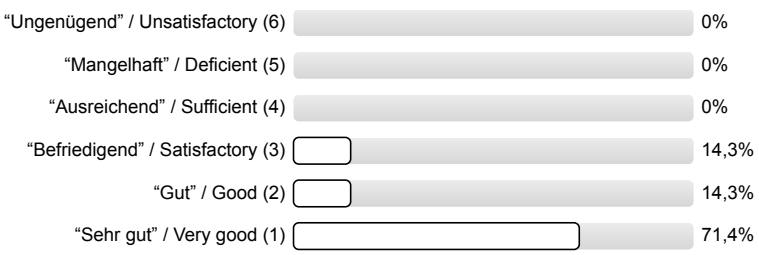
Far too slow	0%
A little too slow	0%
Just right	57,1%
A little too fast	42,9%
Way too fast	0%

1.4) Overall, I give the course the following school grade:

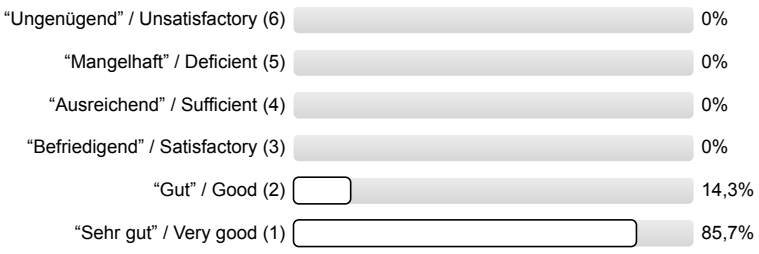
n=7

“Ungenügend” / Unsatisfactory (6)	0%
“Mangelhaft” / Deficient (5)	0%
“Ausreichend” / Sufficient (4)	0%
“Befriedigend” / Satisfactory (3)	14,3%
“Gut” / Good (2)	0%
“Sehr gut” / Very good (1)	85,7%

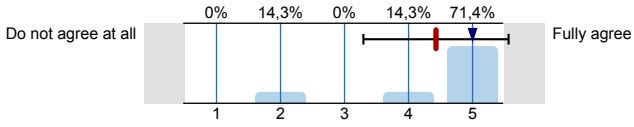
1.5) Overall, I give the lecture part of the course (i.e., theoretical input by instructors) the following school grade:



1.6) Overall, I give the exercise part of the course (e.g., programming exercises in python) the following school grade:

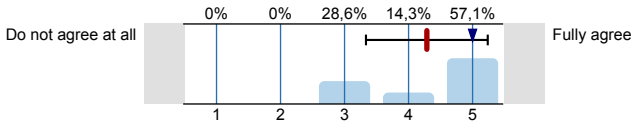


1.7) The course is useful for conducting my research projects.



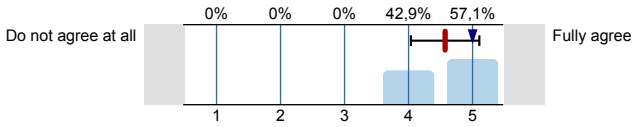
n=7
mw=4,4
md=5
s=1,1

1.8) I can use what I have learned independently in my research projects.



n=7
mw=4,3
md=5
s=1

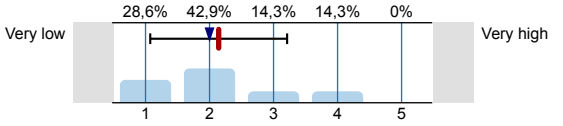
1.9) The amount of examples in the course was appropriate.



n=7
mw=4,6
md=5
s=0,5

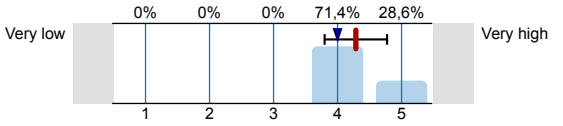
2. Evaluation of Learning Objectives

2.1) **I can explain algorithmic differentiation.**
My skills in this area *before* starting the course were...



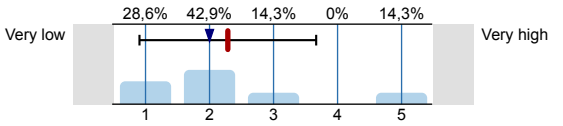
n=7
mw=2,1
md=2
s=1,1

2.2) **I can explain algorithmic differentiation.**
My skills in this area are *now*...



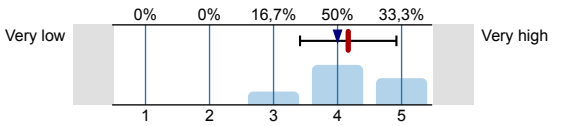
n=7
mw=4,3
md=4
s=0,5

2.3) **I can implement simple algorithmic differentiation programs in Python.**
My skills in this area *before* starting the course were...



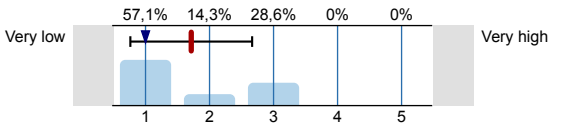
n=7
mw=2,3
md=2
s=1,4

2.4) **I can implement simple algorithmic differentiation programs in Python.**
My skills in this area are *now*...



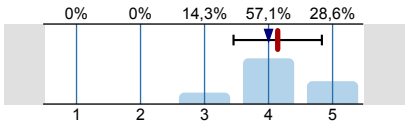
n=6
mw=4,2
md=4
s=0,8

2.5) **I can explain the concept of Q-learning and Q-tables.**
My skills in this area *before* starting the course were...



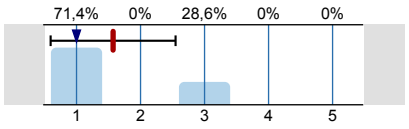
n=7
mw=1,7
md=1
s=1

2.6) **I can explain the concept of Q-learning and Q-tables.**
My skills in this area are *now*...



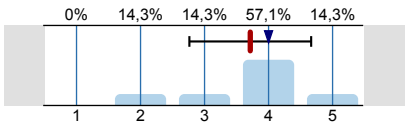
n=7
mw=4,1
md=4
s=0,7

2.7) **I can explain the concept of *approximation* in Q-learning.**
My skills in this area *before* starting the course were...



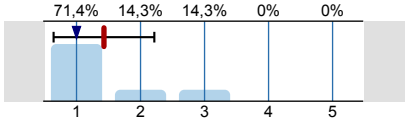
n=7
mw=1,6
md=1
s=1

2.8) **I can explain the concept of *approximation* in Q-learning.**
My skills in this area are *now*...



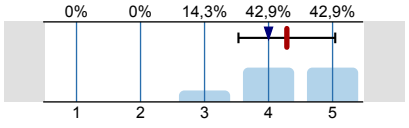
n=7
mw=3,7
md=4
s=1

2.9) **I can describe the function of residual connections in neural networks.**
My skills in this area *before* starting the course were...



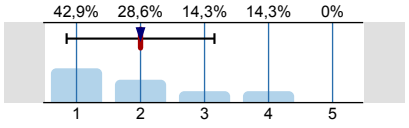
n=7
mw=1,4
md=1
s=0,8

2.10) **I can describe the function of residual connections in neural networks.**
My skills in this area are *now*...



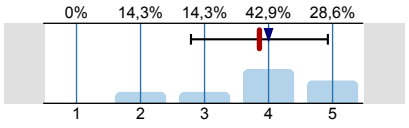
n=7
mw=4,3
md=4
s=0,8

2.11) **I can explain how Bayes' theorem is used in machine learning.**
My skills in this area *before* starting the course were...



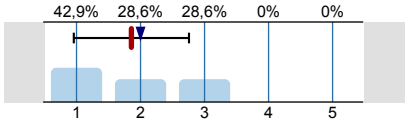
n=7
mw=2
md=2
s=1,2

2.12) **I can explain how Bayes' theorem is used in machine learning.**
My skills in this area are *now*...



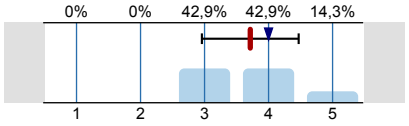
n=7
mw=3,9
md=4
s=1,1

2.13) **I can describe the concept of neural attention.**
My skills in this area *before* starting the course were...



n=7
mw=1,9
md=2
s=0,9

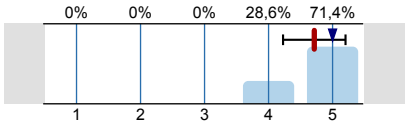
2.14) **I can describe the concept of neural attention.**
My skills in this area are *now*...



n=7
mw=3,7
md=4
s=0,8

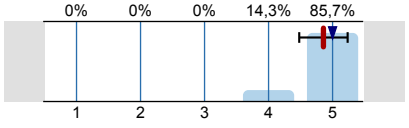
3. Questions about the course (2)

3.1) How useful was the content of Day 1 (topic: **Algorithmic differentiation**)?



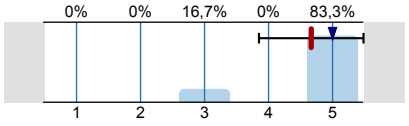
n=7
mw=4,7
md=5
s=0,5

3.2) How useful was the content of Day 2 (topic: **Reinforcement learning**)?



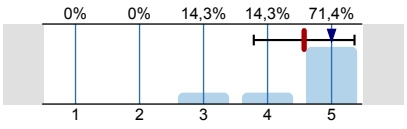
n=7
mw=4,9
md=5
s=0,4

3.3) How useful was the content of Day 3 (topic: **Neural networks & residual connections**)?



n=6
mw=4,7
md=5
s=0,8

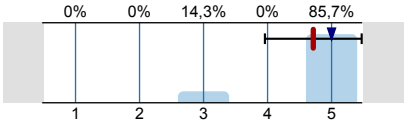
3.4) How useful was the content of Day 4 (topic: **Bayesian learning**)?

Not useful 

Very useful

n=7
mw=4,6
md=5
s=0,8

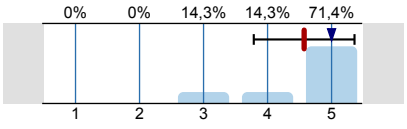
3.5) How useful was the content of Day 5 (topic: **Vision transformer**)?

Not useful 

Very useful

n=7
mw=4,7
md=5
s=0,8

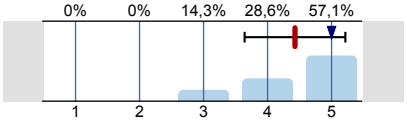
3.6) Please rate your agreement to the following statement:
The unit tests helped me complete the exercises.

Do not agree at al 

Fully agree

n=7
mw=4,6
md=5
s=0,8

3.7) Please rate your agreement to the following statement:
I will consider writing my own tests in the future.

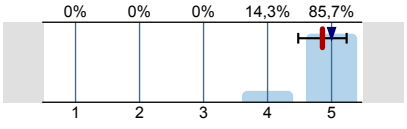
Do not agree at al 

Fully agree

n=7
mw=4,4
md=5
s=0,8

4. Questions about the course (3)

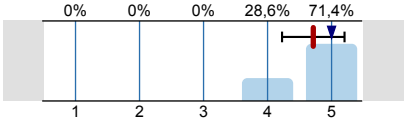
4.1) The course follows a clear structure.

Do not agree at all 

Fully agree

n=7
mw=4,9
md=5
s=0,4

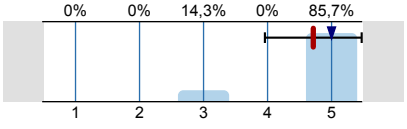
4.2) The way the course is designed adds to the understanding of the material.

Do not agree at all 

Fully agree

n=7
mw=4,7
md=5
s=0,5

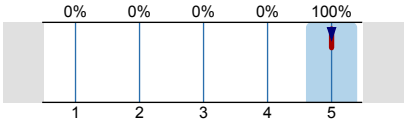
4.3) The course has a good mix of knowledge transfer, interactive elements and discussion.

Do not agree at all 

Fully agree

n=7
mw=4,7
md=5
s=0,8

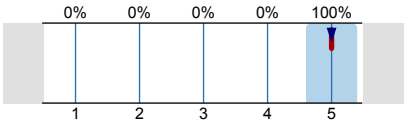
4.4) The instructors are responsive to students' questions and suggestions.

Do not agree at all 

Fully agree

n=6
mw=5
md=5
s=0
E.=1

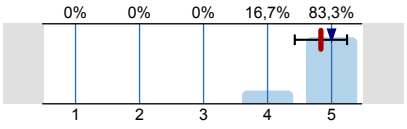
4.5) The instructors clarify the usability and usefulness of the course content.

Do not agree at all 

Fully agree

n=6
mw=5
md=5
s=0
E.=1

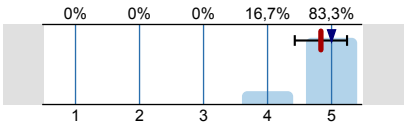
4.6) The instructors use good teaching materials (e.g., slides, presentations, bibliography, script) to support the learning process.

Do not agree at all 

Fully agree

n=6
mw=4,8
md=5
s=0,4
E.=1

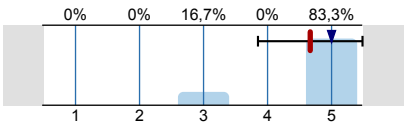
4.7) The instructors have good time management skills.

Do not agree at all 

Fully agree

n=6
mw=4,8
md=5
s=0,4
E.=1

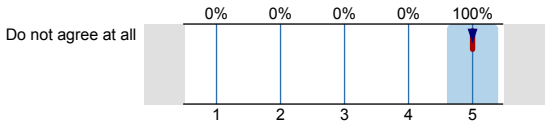
4.8) The instructors express themselves clearly and comprehensively.

Do not agree at all 

Fully agree

n=6
mw=4,7
md=5
s=0,8
E.=1

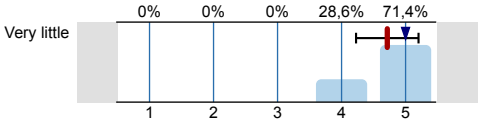
4.9) The instructors encourage active student participation in the course.



n=6
mw=5
md=5
s=0
E.=1

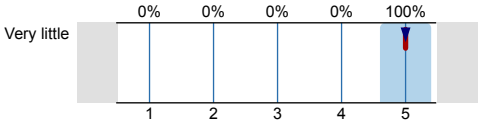
5. Questions about the course (4)

5.1) How much did you learn in this course?



n=7
mw=4,7
md=5
s=0,5

5.2) How interested were you in the topic ***before*** the course began?



n=7
mw=5
md=5
s=0

6. Participant statistics

6.1) What is your highest educational qualification?

n=7

High school diploma / Baccalaureate / “Abitur”	0%
Bachelor (or comparable)	14,3%
Master (or comparable)	71,4%
PhD / “Doctorate”	14,3%
Habilitation / Professorship	0%
None of the above	0%

6.3) How did you find time to take part in this course?

n=7

Took personal vacation time / time off work	0%
My employer/supervisor let me take the course during my working hours	42,9%
Took educational leave ("Bildungsurlaub")	0%
Took the course in addition to my usual workload (e.g., working in the morning/evening)	42,9%
Other / a combination of the above	14,3%

6.4) To which gender identity do you most identify?

n=7

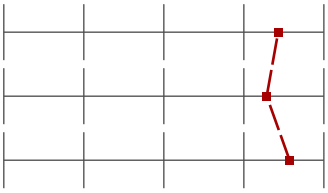
Female	14,3%
Male	85,7%
Other / Diverse	0%
Prefer not to answer	0%

Profillinie

Teilbereich: Institut für Medizindidaktik
Name der/des Lehrenden: Matthias Carl Laupichler
Titel der Lehrveranstaltung: (Name der Umfrage) Advanced Machine Learning (03/24)

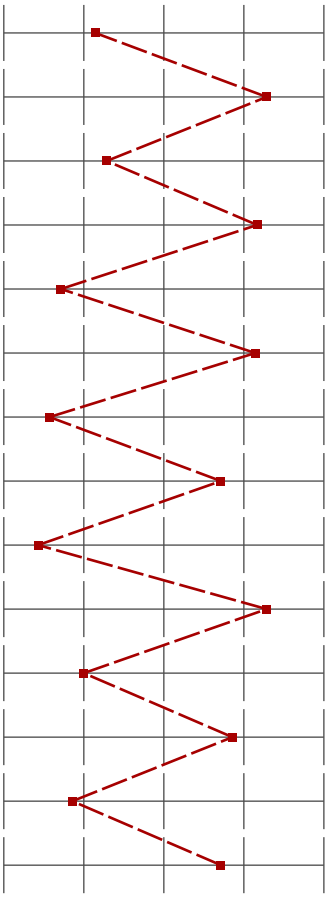
Verwendete Werte in der Profillinie: Mittelwert

1. Questions about the course (1)



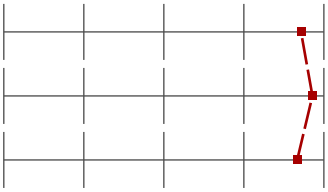
				n	mw	md	s
1.7)	The course is useful for conducting my research projects.	Do not agree at all	Fully agree	n=7	mw=4,4	md=5	s=1,1
1.8)	I can use what I have learned independently in my research projects.	Do not agree at all	Fully agree	n=7	mw=4,3	md=5	s=1
1.9)	The amount of examples in the course was appropriate.	Do not agree at all	Fully agree	n=7	mw=4,6	md=5	s=0,5

2. Evaluation of Learning Objectives



				n	mw	md	s
2.1)	**I can explain algorithmic differentiation.** My skills in this area *before* starting the course were...	Very low	Very high	n=7	mw=2,1	md=2	s=1,1
2.2)	**I can explain algorithmic differentiation.** My skills in this area are *now*...	Very low	Very high	n=7	mw=4,3	md=4	s=0,5
2.3)	**I can implement simple algorithmic differentiation programs in Python.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=2,3	md=2	s=1,4
2.4)	**I can implement simple algorithmic differentiation programs in Python.** My skills in this area are *now*...	Very low	Very high	n=6	mw=4,2	md=4	s=0,8
2.5)	**I can explain the concept of Q-learning and Q-tables.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=1,7	md=1	s=1
2.6)	**I can explain the concept of Q-learning and Q-tables.** My skills in this area are *now*...	Very low	Very high	n=7	mw=4,1	md=4	s=0,7
2.7)	**I can explain the concept of *approximation* in Q-learning.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=1,6	md=1	s=1
2.8)	**I can explain the concept of *approximation* in Q-learning.** My skills in this area are *now*...	Very low	Very high	n=7	mw=3,7	md=4	s=1
2.9)	**I can describe the function of residual connections in neural networks.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=1,4	md=1	s=0,8
2.10)	**I can describe the function of residual connections in neural networks.** My skills in this area are *now*...	Very low	Very high	n=7	mw=4,3	md=4	s=0,8
2.11)	**I can explain how Bayes' theorem is used in machine learning.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=2	md=2	s=1,2
2.12)	**I can explain how Bayes' theorem is used in machine learning.** My skills in this area are *now*...	Very low	Very high	n=7	mw=3,9	md=4	s=1,1
2.13)	**I can describe the concept of neural attention.** My skills in this area *before* starting the course	Very low	Very high	n=7	mw=1,9	md=2	s=0,9
2.14)	**I can describe the concept of neural attention.** My skills in this area are *now*...	Very low	Very high	n=7	mw=3,7	md=4	s=0,8

3. Questions about the course (2)



				n	mw	md	s
3.1)	How useful was the content of Day 1 (topic: **Algorithmic differentiation**)?	Not useful	Very useful	n=7	mw=4,7	md=5	s=0,5
3.2)	How useful was the content of Day 2 (topic: **Reinforcement learning**)?	Not useful	Very useful	n=7	mw=4,9	md=5	s=0,4
3.3)	How useful was the content of Day 3 (topic: **Neural networks & residual connections**)?	Not useful	Very useful	n=6	mw=4,7	md=5	s=0,8

3.4)	How useful was the content of Day 4 (topic: **Bayesian learning**)?	Not useful	Very useful	n=7	mw=4,6	md=5	s=0,8
3.5)	How useful was the content of Day 5 (topic: **Vision transformer**)?	Not useful	Very useful	n=7	mw=4,7	md=5	s=0,8
3.6)	Please rate your agreement to the following statement: **The unit tests helped me complete the**	Do not agree at al	Fully agree	n=7	mw=4,6	md=5	s=0,8
3.7)	Please rate your agreement to the following statement: **I will consider writing my own tests in the**	Do not agree at al	Fully agree	n=7	mw=4,4	md=5	s=0,8

4. Questions about the course (3)

4.1)	The course follows a clear structure.	Do not agree at all	Fully agree	n=7	mw=4,9	md=5	s=0,4
4.2)	The way the course is designed adds to the understanding of the material.	Do not agree at all	Fully agree	n=7	mw=4,7	md=5	s=0,5
4.3)	The course has a good mix of knowledge transfer, interactive elements and discussion.	Do not agree at all	Fully agree	n=7	mw=4,7	md=5	s=0,8
4.4)	The instructors are responsive to students' questions and suggestions.	Do not agree at all	Fully agree	n=6	mw=5	md=5	s=0
4.5)	The instructors clarify the usability and usefulness of the course content.	Do not agree at all	Fully agree	n=6	mw=5	md=5	s=0
4.6)	The instructors use good teaching materials (e. g., slides, presentations, bibliography, script) to support the learning process.	Do not agree at all	Fully agree	n=6	mw=4,8	md=5	s=0,4
4.7)	The instructors have good time management skills.	Do not agree at all	Fully agree	n=6	mw=4,8	md=5	s=0,4
4.8)	The instructors express themselves clearly and comprehensively.	Do not agree at all	Fully agree	n=6	mw=4,7	md=5	s=0,8
4.9)	The instructors encourage active student participation in the course.	Do not agree at all	Fully agree	n=6	mw=5	md=5	s=0

5. Questions about the course (4)

5.1)	How much did you learn in this course?	Very little	Very much	n=7	mw=4,7	md=5	s=0,5
5.2)	How interested were you in the topic ***before*** the course began?	Very little	Very much	n=7	mw=5	md=5	s=0

Auswertungsteil der offenen Fragen

5. Questions about the course (4)

5.3) What did you like most about the course?

- Aid with my excercises, explanations both in presentation and personally for questions that occurred to me later (especially Moritz Wolter is very good at explaining complex techniques and concepts, and helped me close a lot of gaps in my knowledge on Machine Learning). I feel much more confident in my use of ML now, and am looking forward to some implementations I can use in my research!
- Algorithmic differentiation and Q-learning, coding best practice
- The availability and the enthusiasm of the TAs was a very welcome surprise
- The focus on the direct practical implementation of what we have learned in the lectures and also the theoretical depth of the lectures itself.

  Also: All instructors were extremely helpful and well prepared!
- The great attitude, enthusiasm and helpfulness of the instructors.

5.4) What could be improved about this course?

- 1. A glossary of terms and their corresponding definitions (both theoretical terms like "hidden state", "alignment score" etc. and practical things like "resnet", "CIFAR10") would help to follow presentations & understand everything much faster.
  2. A Cheatsheet of used functions (possibly also including some further potentially useful functions) would help me solving exercises more independently - I'm sometimes totally at a loss, because I don't know the libraries used, and then have to ask for help.
- Maybe a bit more detail on the mathematical derivations? Although it really depends on the audience.
- Maybe instead of one theoretical and one practice part, two shorter theoretical-practice sessions (one in the morning, one in the afternoon). Alternation of theory and practice would be beneficial I think.
  More examples in the theory part.
- Some exercises were a bit too complex which caused a high chance for introducing bugs. Due to this, a smooth proceeding with the exercise was not always possible.
- The notation was confusing in rare cases (mathematical symbols, parameters in code). Being unfamiliar with the Jax framework, if there was any, I missed a heads-up that this immense package will be used, or useful links about its quirks (compared to numpy, or tensorflow, pytorch...).

6. Participant statistics

6.2) What is your main field of research?

- Bioinformatics
- Computational Neuroscience (3 Nennungen)
- Digital Humanities
- neuroscience

6.5) What is your age (in years)?

- 26
- 27
- 28
- 30
- 32
- 41