

Virginia Tech  
Fall 2021 VT Student Perceptions of Teaching (SPOT)

Course: ECE\_4424\_91321\_202109: Machine Learning-ECE\_4424\_91321\_202109  
 Instructor: Ming Jin \*  
 Response Rate: 21/24 (87.50%)

**1 - Please indicate the extent to which you agree or disagree with each of the following statements:**

**1A - The instructor was well prepared.**

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means									
Strongly disagree	(1)	0	0.00%		5.76	5.20	5.09	Question	College	Department	Mean	STD	Median	
Disagree	(2)	0	0.00%											
Somewhat disagree	(3)	0	0.00%											
Somewhat agree	(4)	0	0.00%											
Agree	(5)	5	23.81%											
Strongly agree	(6)	16	76.19%											
					0	25	50	100	Question	College	Department	Mean	STD	Median
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median			
21/24 (87.50%)	5.76	0.44	6.00	22610	5.20	1.12	6.00	2561	5.09	1.21	5.00			

**1 - Please indicate the extent to which you agree or disagree with each of the following statements:**

**1B - The instructor presented the subject matter clearly.**

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means									
Strongly disagree	(1)	0	0.00%		5.70	4.98	4.82	Question	College	Department	Mean	STD	Median	
Disagree	(2)	0	0.00%											
Somewhat disagree	(3)	0	0.00%											
Somewhat agree	(4)	2	10.00%											
Agree	(5)	2	10.00%											
Strongly agree	(6)	16	80.00%											
					0	25	50	100	Question	College	Department	Mean	STD	Median
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median			
20/24 (83.33%)	5.70	0.66	6.00	22465	4.98	1.28	5.00	2542	4.82	1.35	5.00			

**1 - Please indicate the extent to which you agree or disagree with each of the following statements:**

**1C - The instructor provided feedback intended to improve my course performance.**

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means									
Strongly disagree	(1)	0	0.00%		5.62	4.94	4.74	Question	College	Department	Mean	STD	Median	
Disagree	(2)	0	0.00%											
Somewhat disagree	(3)	0	0.00%											
Somewhat agree	(4)	1	4.76%											
Agree	(5)	6	28.57%											
Strongly agree	(6)	14	66.67%											
					0	25	50	100	Question	College	Department	Mean	STD	Median
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median			
21/24 (87.50%)	5.62	0.59	6.00	22445	4.94	1.30	5.00	2538	4.74	1.41	5.00			

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**Response Rate:** 21/24 (87.50 %)

1 - Please indicate the extent to which you agree or disagree with each of the following statements:												
1D - The instructor fostered an atmosphere of mutual respect.												
Ming Jin												
Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Strongly disagree	(1)	0	0.00%		5.71	College		Department				
Disagree	(2)	0	0.00%		5.32							
Somewhat disagree	(3)	0	0.00%		5.24							
Somewhat agree	(4)	1	4.76%									
Agree	(5)	4	19.05%									
Strongly agree	(6)	16	76.19%									
					0	25	50	100	Question	College	Department	
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>College</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>Department</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	
21/24 (87.50%)	5.71	0.56	6.00	22424	5.32	1.06	6.00	2541	5.24	1.11	6.00	

1 - Please indicate the extent to which you agree or disagree with each of the following statements:												
1E - Overall, the instructor's teaching was effective.												
Ming Jin												
Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Strongly disagree	(1)	0	0.00%		5.65	College		Department				
Disagree	(2)	0	0.00%		4.97							
Somewhat disagree	(3)	0	0.00%		4.81							
Somewhat agree	(4)	1	5.00%									
Agree	(5)	5	25.00%									
Strongly agree	(6)	14	70.00%									
					0	25	50	100	Question	College	Department	
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>College</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>Department</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	
20/24 (83.33%)	5.65	0.59	6.00	22321	4.97	1.31	5.00	2527	4.81	1.40	5.00	

2 - 2A - What did the instructor do that most helped in your learning?	
Ming Jin	
<b>Response Rate</b>	15/24 (62.5%)
<ul style="list-style-type: none"> <li>• Great demos, clear homework assignment logics.</li> <li>• PPT is very helpful</li> <li>• Give notes online and good explanation on concepts.</li> <li>• The class content was well prepared and the course was well understood</li> <li>• class examples</li> <li>• Explain the concept clearly</li> <li>• His course schedules do help me understand both mathematical theorms and algorithms.</li> <li>• scribe!! The scribe make everything clear for me</li> <li>• Listened to our feedback in class and adapted the lectures to reflect the changes</li> <li>• He was helping us out whenever we had questions and was enthusiastic about the material. One of my favorite professors because he encouraged us to work hard while also not burning us out. This was my favorite class and I really enjoyed being his student!</li> <li>• The scribes were a good idea. Doing the required scribe really helped me to better understand the course content.</li> <li>• Providing demos</li> <li>• Lectures</li> <li>• The homework and projects help me better understand the concept.</li> <li>• Did a lot of step by step illustration and lecture notes.</li> </ul>	

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**Response Rate:** 21/24 (87.50 %)

### 3 - Please indicate the extent to which you agree or disagree with each of the following statements:

#### 3A - I have a deeper understanding of the subject matter as a result of this course.

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Strongly disagree	(1)	0	0.00%			5.48	5.08	5.01	Question	College	Department	
Disagree	(2)	0	0.00%									
Somewhat disagree	(3)	0	0.00%									
Somewhat agree	(4)	2	9.52%	█								
Agree	(5)	7	33.33%	███								
Strongly agree	(6)	12	57.14%	██████								
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>College</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>Department</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	
21/24 (87.50%)	5.48	0.68	6.00	19815	5.08	1.14	5.00	2531	5.01	1.17	5.00	

### 3 - Please indicate the extent to which you agree or disagree with each of the following statements:

#### 3B - My interest in the subject matter was stimulated by this course.

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Strongly disagree	(1)	0	0.00%			5.38	4.82	4.74	Question	College	Department	
Disagree	(2)	0	0.00%									
Somewhat disagree	(3)	1	4.76%	█								
Somewhat agree	(4)	2	9.52%	█								
Agree	(5)	6	28.57%	███								
Strongly agree	(6)	12	57.14%	██████								
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>College</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	<b>Department</b>	<b>Mean</b>	<b>STD</b>	<b>Median</b>	
21/24 (87.50%)	5.38	0.86	6.00	19707	4.82	1.37	5.00	2511	4.74	1.41	5.00	

#### 4 - 4A - What could you have done to be a better learner?

**Response Rate** 10/24 (41.67%)

- Spend more time on the lectures, find more learning resources online
- Can have more assignments
- taken notes
- I try my best to understand the knowledge and do the homework on time with high correction.
- Ask more questions in class
- I believe that I could have taken my own scribe notes for each lecture. I feel that it would have greatly helped me.
- I tried my best to go to all TA office hours. I could have also done this for all of the Instructor office hours. This predicament is further explained in the next text box. I really tried my best in this class. I by far spent more hours in this class than all of my other classes. I was hoping to get an A in this class, although I made some mistakes on the first quiz. This might prevent me from getting an A unfortunately.
- The basic conceptions
- Study more
- Focus more on the programing part of this course.

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**Response Rate:** 21/24 (87.50%)

### 5 - 5A - Please add any additional comments regarding the course and/or instructor here:

**Ming Jin**

**Response Rate** 9/24 (37.5%)

- Generally, Dr. Jin's teaching was effective, and I gain a stronger Machine Learning knowledge base to apply to my future projects, which is great. However, I hope Dr. Jin can create some demos on applications of Machine Learning in image processing, since this kind of demo will be a little more practical related.
- can teach the course slower
- The teacher is very good, you can ask the teacher any questions you have.
- More class examples please. more depth in topics.
- Try to ask as more question as possible
- His homework really helped my with the course.
- Instructor office hours would end if there was nobody in the zoom call. I was unable to join the office hours right at the beginning and would plan to join midway. Since there was nobody in the office hours at the beginning, the Instructor office hours were ended before the full hour is up. I understand this was done because it seemed that nobody needed office hours that day. But in reality, I just was not available to join at the very beginning and was only available half way through the office hours. This was disappointing to me and hindered my ability to fully learn all of the concepts taught in this course. Despite this, I was able to make good use of the TA office hours.
- Can you post the in class quizzes to canvas
- Please have more explanation or give the correct solution on the programming assignment.

### 6 - 6A - How would you rate the physical environment in which you took this class based upon your ability to see, hear, concentrate, and participate?

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Very Bad	(1)	0	0.00%		5.52	5.16	5.08				
Bad	(2)	0	0.00%								
Poor	(3)	0	0.00%								
Fair	(4)	1	4.76%								
Good	(5)	8	38.10%								
Very Good	(6)	12	57.14%								
					Question	College	Department				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.52	0.60	6.00	19663	5.16	0.98	5.00	2511	5.08	0.99	5.00

### 7 - 7A - Please add any comments about the physical environment here:

**Response Rate** 5/24 (20.83%)

- none
- Is zoom course
- Online class works well for me
- None.
- Online courses

### 8 - Please indicate the extent to which you agree or disagree with each of the following statements:

**I improved my ability to problem solve.**

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Strongly disagree	(1)	0	0.00%		5.52	5.03	5.00				
Disagree	(2)	0	0.00%								
Somewhat disagree	(3)	0	0.00%								
Somewhat agree	(4)	1	4.76%								
Agree	(5)	8	38.10%								
Strongly agree	(6)	12	57.14%								
					Question	College	Department				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.52	0.60	6.00	19758	5.03	1.10	5.00	2527	5.00	1.09	5.00

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**8 - Please indicate the extent to which you agree or disagree with each of the following statements:**

The textbook or course readings made a valuable contribution to my learning.

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Strongly disagree	(1)	0	0.00%		5.43	4.54	4.53				
Disagree	(2)	0	0.00%								
Somewhat disagree	(3)	0	0.00%								
Somewhat agree	(4)	2	9.52%								
Agree	(5)	8	38.10%								
Strongly agree	(6)	11	52.38%								
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.43	0.68	6.00	19631	4.54	1.44	5.00	2514	4.53	1.42	5.00

**8 - Please indicate the extent to which you agree or disagree with each of the following statements:**

The objectives of the course were clearly explained.

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Strongly disagree	(1)	0	0.00%		5.38	5.05	4.97				
Disagree	(2)	0	0.00%								
Somewhat disagree	(3)	0	0.00%								
Somewhat agree	(4)	2	9.52%								
Agree	(5)	9	42.86%								
Strongly agree	(6)	10	47.62%								
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.38	0.67	5.00	19709	5.05	1.16	5.00	2522	4.97	1.16	5.00

**8 - Please indicate the extent to which you agree or disagree with each of the following statements:**

The out-of-class assignments were educationally valuable.

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Strongly disagree	(1)	0	0.00%		5.57	4.97	4.99				
Disagree	(2)	0	0.00%								
Somewhat disagree	(3)	0	0.00%								
Somewhat agree	(4)	0	0.00%								
Agree	(5)	9	42.86%								
Strongly agree	(6)	12	57.14%								
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
21/24 (87.50%)	5.57	0.51	6.00	19564	4.97	1.23	5.00	2497	4.99	1.21	5.00

**9 - The instructor related theories and concepts to practical issues.**

Ming Jin

Response Option	Weight	Frequency	Percent	Percent Responses	Means						
Strongly disagree	(1)	0	0.00%		5.70	5.20	5.10				
Disagree	(2)	0	0.00%								
Somewhat disagree	(3)	0	0.00%								
Somewhat agree	(4)	0	0.00%								
Agree	(5)	6	30.00%								
Strongly agree	(6)	14	70.00%								
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median
20/24 (83.33%)	5.70	0.47	6.00	22134	5.20	1.08	6.00	2507	5.10	1.12	5.00

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**10 - Compared to other courses at this level, the difficulty of this course is:**

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
much less than average	(1)	0	0.00%			4.53	3.99	3.99	Question	College	Department	
slightly less than average	(2)	1	5.26%									
average	(3)	1	5.26%									
slightly more than average	(4)	8	42.11%	■								
much more than average	(5)	5	26.32%	■								
I have not taken other courses at this level	(6)	4	21.05%	■								
					0	25	50	100	Question	College	Department	
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
19/24 (79.17%)	4.53	1.07	4.00	2524	3.99	1.12	4.00	2524	3.99	1.12	4.00	

**11 - The grade I expect in this course is:**

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
not applicable	(1)	0	0.00%			6.50	6.11	6.11	Question	College	Department	
pass	(2)	0	0.00%									
F	(3)	0	0.00%									
D	(4)	0	0.00%									
C	(5)	0	0.00%									
B	(6)	10	50.00%	■								
A	(7)	10	50.00%	■								
					0	25	50	100	Question	College	Department	
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
20/24 (83.33%)	6.50	0.51	6.50	2513	6.11	1.12	6.00	2513	6.11	1.12	6.00	

**12 - Approximately how many hours per week outside of class do you spend on homework, reading, and projects for this course?**

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
0-2	(1)	0	0.00%			3.37	3.08	3.08	Question	College	Department	
3-5	(2)	3	15.79%	■								
6-9	(3)	7	36.84%	■								
10-14	(4)	8	42.11%	■								
15 or more	(5)	1	5.26%	■								
					0	25	50	100	Question	College	Department	
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
19/24 (79.17%)	3.37	0.83	3.00	2529	3.08	1.04	3.00	2529	3.08	1.04	3.00	

**13 - At the end of this course, how do I rate my ability to:**

Analyze and contrast board classes of machine learning algorithms (supervised vs. unsupervised vs. semi-supervised)

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Poor	(1)	0	0.00%			3.57	3.43	3.43	Question	College	Department	
Fair	(2)	1	4.76%									
Good	(3)	7	33.33%	■								
Excellent	(4)	13	61.90%	■								
N/A	(0)	0	0.00%									
					0	25	50	100	Question	College	Department	
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.57	0.60	4.00	35	3.43	0.74	4.00	35	3.43	0.74	4.00	

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**13 - At the end of this course, how do I rate my ability to:**  
 Describe and apply fundamental concepts of learning from data (maximum likelihood estimation, maximum a posteriori, overfitting vs underfitting, regularization, cross-validation)

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Poor	(1)	0	0.00%			3.52	3.26	3.26	Question	College	Department	
Fair	(2)	2	9.52%	█								
Good	(3)	6	28.57%	██								
Excellent	(4)	13	61.90%	██████								
N/A	(0)	0	0.00%									
					0	25	50	100				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.52	0.68	4.00	35	3.26	0.85	3.00	35	3.26	0.85	3.00	

**13 - At the end of this course, how do I rate my ability to:**  
 Explain and program supervised learning algorithms for regression (e.g. least squares via pseudo-inverse)

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Poor	(1)	0	0.00%			3.48	3.20	3.20	Question	College	Department	
Fair	(2)	3	14.29%	█								
Good	(3)	5	23.81%	██								
Excellent	(4)	13	61.90%	██████								
N/A	(0)	0	0.00%									
					0	25	50	100				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.48	0.75	4.00	35	3.20	1.02	4.00	35	3.20	1.02	4.00	

**13 - At the end of this course, how do I rate my ability to:**  
 Explain and program supervised learning algorithms for classification (e.g. logistic regression via gradient descent, support vector machines via Quadratic Programming)

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Poor	(1)	0	0.00%			3.62	3.20	3.20	Question	College	Department	
Fair	(2)	1	4.76%	█								
Good	(3)	6	28.57%	██								
Excellent	(4)	14	66.67%	██████								
N/A	(0)	0	0.00%									
					0	25	50	100				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.62	0.59	4.00	35	3.20	1.02	4.00	35	3.20	1.02	4.00	

**13 - At the end of this course, how do I rate my ability to:**  
 Describe and program unsupervised learning algorithms for clustering (e.g. kmeans)

Response Option	Weight	Frequency	Percent	Percent Responses	Means							
Poor	(1)	0	0.00%			3.38	3.06	3.06	Question	College	Department	
Fair	(2)	3	14.29%	█								
Good	(3)	7	33.33%	██								
Excellent	(4)	11	52.38%	████								
N/A	(0)	0	0.00%									
					0	25	50	100				
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.38	0.74	4.00	35	3.06	0.97	3.00	35	3.06	0.97	3.00	

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**Instructor:** Ming Jin \*

**Response Rate:** 21/24 (87.50 %)

13 - At the end of this course, how do I rate my ability to:												
Design and implement a technical project, and apply developed techniques to real-world datasets (images, text, robotics, etc.)												
Response Option		Weight	Frequency	Percent	Percent Responses	Means						
Poor		(1)	0	0.00%		3.45		3.24		3.24		
Fair		(2)	1	4.76%		3.45		3.24		3.24		
Good		(3)	9	42.86%		3.45		3.24		3.24		
Excellent		(4)	10	47.62%		3.45		3.24		3.24		
N/A		(0)	1	4.76%		3.45		3.24		3.24		
					0	25	50	100	Question	College	Department	
Response Rate	Mean	STD	Median	College	Mean	STD	Median	Department	Mean	STD	Median	
21/24 (87.50%)	3.45	0.60	3.50	35	3.24	0.85	3.00	35	3.24	0.85	3.00	