

COMP / ELEC / STAT 502 Pizza Points

Details of competition points

Color codes: **Red = 1 point**, **Blue = 0.5 point** Groups in { } are tied
 If a category does not have the advertised number of winners it means that other groups did not qualify for some reason. (For example, if you did not tell us the size of your network in HW04, P4, we cannot evaluate your results for that category.)

Number of advertised PP-s available up to this date: 25
 19 from HW-s + 6 from Piazza questions = 25
 The total number/2 will be the 100% PP level.

Points offered outside of HW-s

"delta of bias PE"	Piazza Q1 2/02/2023	Haoming Shi
"magnitude of learn rate"	Piazza Q2 2/02/2023	Charan Santhirasegaran
"strange 1/x result"	Piazza Q3 2/22/2023	Spencer Williams
"on-line or batch"	Piazza Q4 2/22/2023	Gabriel Diaz
"refute G3 answer by GD"	Piazza Q5 2/23/2023	Haoming Shi
"refute G3 answer by MC"	Piazza Q5 2/23/2023	Matt Cheung

Extra points not raising the 100% PP level:

Quiz 2 q2 (topology preservation) discussion	Piazza 4/21/2023	Colin Jones
Quiz 2 q3 (SCL is a VQ) discussion	Piazza 4/21/2023	Colin Jones
Quiz 2 q4 (VC dimension) discussion	Piazza 4/21/2023	Colin Jones
	and	Matt Cheung

Unadvertised extra points (see below for details)

Very insightful answer In class 2/14/2023 Haoming Shi

Quiz 1 > 90% score; >80% score

Quiz 2 > 80% score; >70% score

HW04 Shortest iris training

HW04 Part I -----

HW04 P2 Best fit to 1/x on test data

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran

Group 2: Matt Cheung, Tarence Rice, Spencer Williams

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Quiz 1 -----

Quiz 1 > 90% score

Janet Fu

Quiz 1 > 80% score

Kevin McCoy, Ziting Tang, Haoming Shi

HW04 -----

HW04 P2 Best fit to 1/x on test data

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran

Group 2: Matt Cheung, Tarence Rice, Spencer Williams
 Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

HW04 P3 Best fit to $1/x$ on test data

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran
 Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi
 Group 2: Matt Cheung, Tarence Rice, Spencer Williams
 Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang (great fit on a "modified" curve)

HW04 P3 Shortest training with same good fit to $1/x$ on test data

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran
 500,000 steps
 Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang
 500,000 steps

(For comparison: Top two last year were 5,000 and 10,527 steps.)

HW04 P4 Best classification accuracy on iris test data

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi
 97%
 {Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang
 96%
 Group 2: Matt Cheung, Tarence Rice, Spencer Williams}
 96%

HW04 P4 Smallest network achieving $\geq 95\%$ classification accuracy on iris test data

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi
 2 hidden PEs
 {Group 2: Matt Cheung, Tarence Rice, Spencer Williams
 4 hidden PEs
 Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang}
 4 hidden PEs

Unadvertised extra: HW04 P4 Shortest training with same good accuracy on iris test data

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi
 713 steps
 Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang
 6,075 steps

(Everyone else used $O(10^5)$ learn steps.

G1 scaled and used batch size = 1.

G3 scaled and used batch size = 25)

HW05 -----

HW05 P1 Best average classification accuracy

	Test Accuracy
{Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang Group 4: Ali Attarwala, Linda Delgado Libien, Charan Santhirasegaran}	98%
Group 2: Matt Cheung, Tarence Rice, Spencer Williams	96.7%
Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi	95.4%

HW05 P1 Most reliable classification with $>90\%$ accuracy

	STD
Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang	1.1%
Group 4: Ali Attarwala, Linda Delgado Libien, Charan Santhirasegaran	2.0%
Group 2: Matt Cheung, Tarence Rice, Spencer Williams	3.1%

HW05 P2.2 Best fit

Group 2: Matt Cheung, Tarence Rice, Spencer Williams
 Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang
 Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

HW06 -----HW6 P2 Best SOM learning (placement of prototypes in data space, four Gaussian clusters)

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang

Group 5: Alex Gellegos, Colin Jones

HW6 P2 Fastest SOM convergence (of correct learning)

{Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi All 1M steps

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran

Group 5: Alex Gellegos, Colin Jones}

HW7 P2 Best SOM density maps

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran

{Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang

Group 2: Matt Cheung, Tarence Rice, Spencer Williams}

HW6 P3 Best visualization of cluster delineation in SOM

NA ☹

HW6 P4 Best cluster identification in SOM (iris)

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

HW7 P4 Best visualization of SOM's knowledge (iris) [only layered representations are awarded points]

Group 4: Ali Attarwala, Linda Delgado Libien, Gabriel Diaz, Charan Santhirasegaran

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang

HW07 -----HW7 P1.b (LVQ) Best accuracies on test data (provided results were produced correctly)

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi 90.1% (2x2)

No more ☹

HW7 P1.b (LVQ) Best explanations

Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Group 2: Matt Cheung, Tarence Rice, Spencer Williams

Group 5: Alex Gellegos, Colin Jones

HW7 P2 (GHA) Best visualizatation

{Group 5: Alex Gellegos, Colin Jones

Group 2: Matt Cheung, Tarence Rice, Spencer Williams}

{Group 1: Felipe Bedoya, Janet Fu, Kevin McCoy, Haoming Shi

Group 3: Zening Li, Yajie Liu, Daniel Qiu, Ziting Tang}

Quiz 2 -----Quiz 2 > 80% score

Ziting Tan

Quiz 2 > 70% score

Alex Gallegos, Charan Santhirasegaran

Exam 1 -----Compression / restoration of the Kitten

4:1 compression / reconstruction learning efforts of the Kitten, listed for solutions that are of comparable quality shown here. Original kitten at left, reconstructed ones at center and right.



See next page for details, and samples from Exam 1.

Short learning (< 100K steps) received 3 PP-s, O(100K) steps 2 PP-s, O(1M) steps 1 PP.

Name	Learn Count (# learn steps)	Type	Batch Size	Learning Rate	Momentum	Mean Abs. Diff.	Comment	PP	Rating (E=Excellent G=Good,
Shi, Haoming	21,168	on-line	1	0.01, 0.005	0.05	4.99	proper affine	3	E
Williams, Spencer	59,200	on-line	1	0.01	0.03	3.99	proper affine	3	E
Li, Zening	11,900	on-line	1	0.01	0.1	5.12	[0,255]->[0,1]	3	VG
Tang, Ziting	200,000	Batch	20	0.08	0.8	5.45	[min,max]->[0,1]->sym	2	E
Jones, Colin	400,000	Batch	10	0.001	0.5	0.04	unknown	2	VG-E
Attarwala, Ali	2,960,000	on-line	1	0.01	0.9	1.33	divided by 255	1	E
Liu, Yajie	1,200,000	Batch	40	0.05, 0.1	0.7	2.27	proper affine	1	E
Bonus for –still very good- reconstructions with some unclear issue with the learning									
Cheung, Matt	148,000?	Batch	40	0.001	1E-04	16.20	/max	1	VG-E
Bedoya, Felipe	30,000	?	?	0.1	0.9	13.70	unknown;	1	VG-E
Delgado, Linda	?	?	?	?	?	12.75	divided by 255	1	VG