

ICT457

Learning Systems

Project presentation

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Summary

New specializations

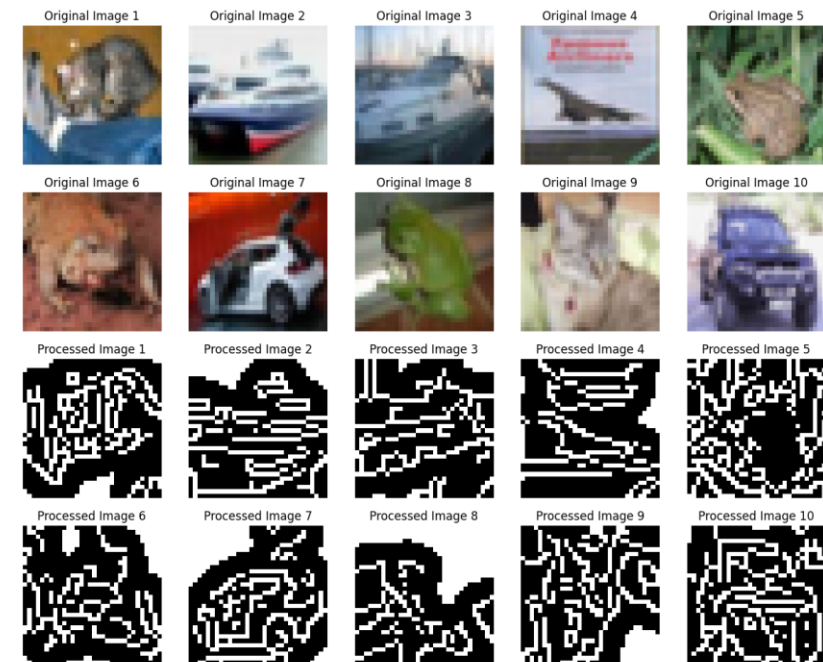
- 2x2 color thermometers
- 5x5 color thermometers
- Canny Hough Lines
- Inversed Adaptive Thresholding
- Otsu Thresholding
- Other experiments
(Clahe, LBP, Canny edge)

Optimizations

- Weights
- Voting techniques

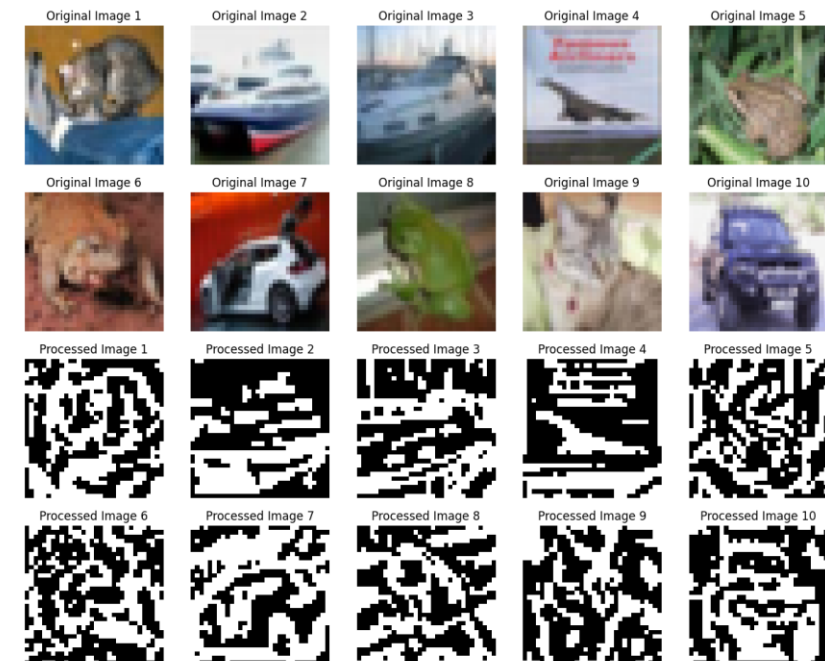
Canny Hough Lines

- Canny edge detection
- Hough transform
- Adaptive threshold
- **39.52% accuracy**



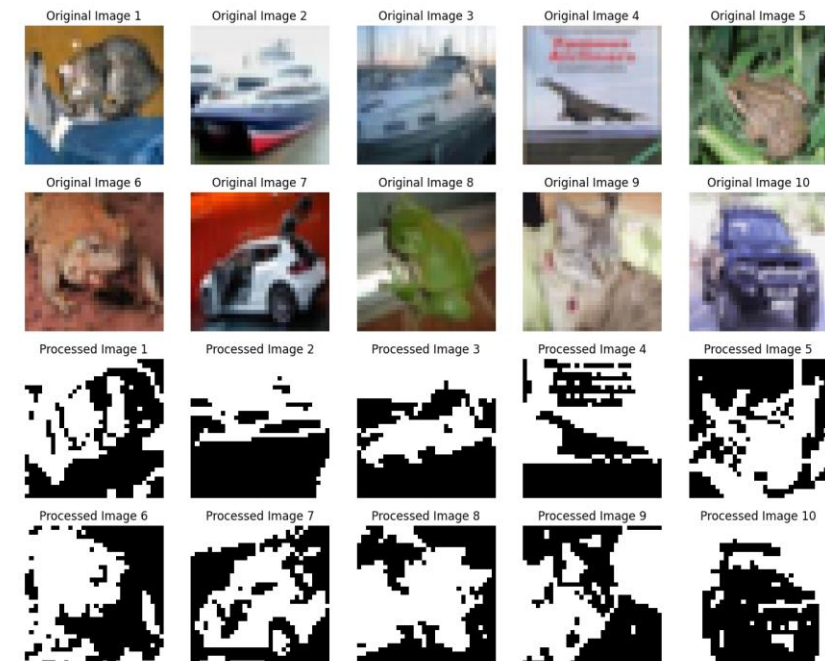
Inversed Adaptive Thresholding

- Adaptive thresholding using binary inverse
- **49.8% accuracy**

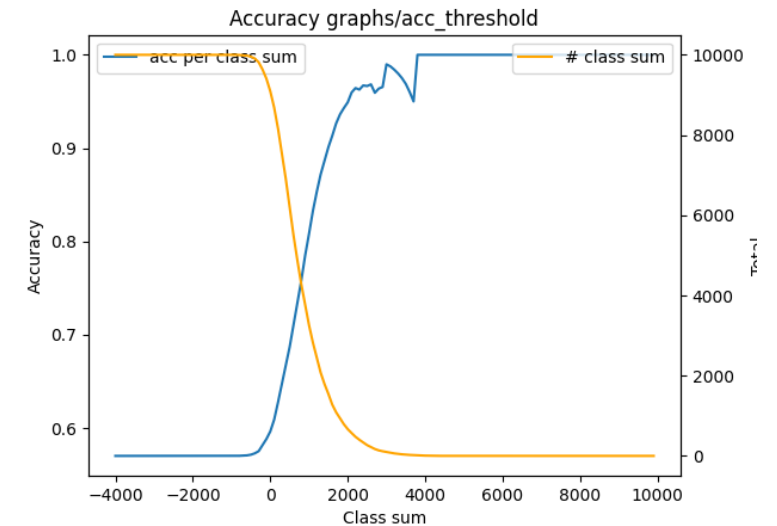
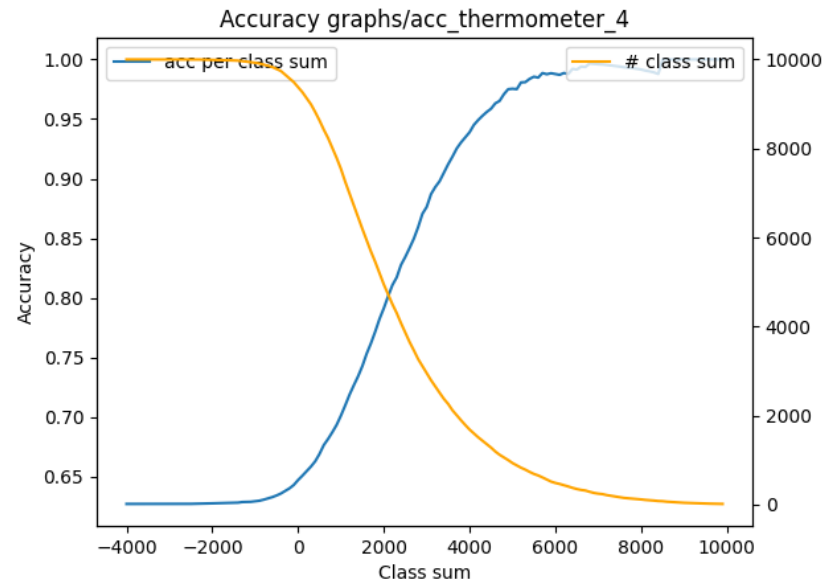
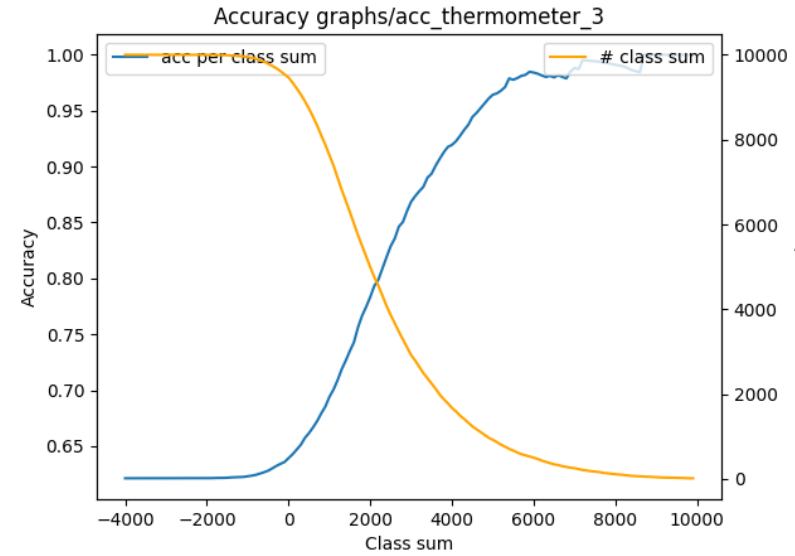
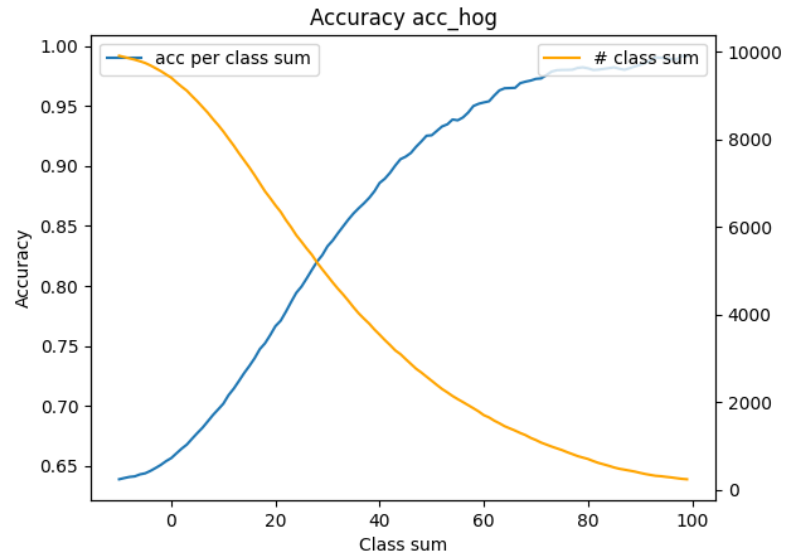


Otsu Thresholding

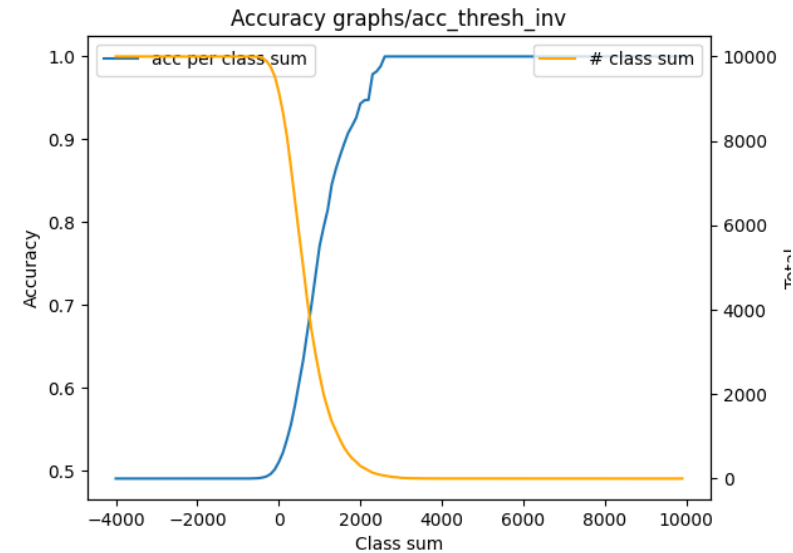
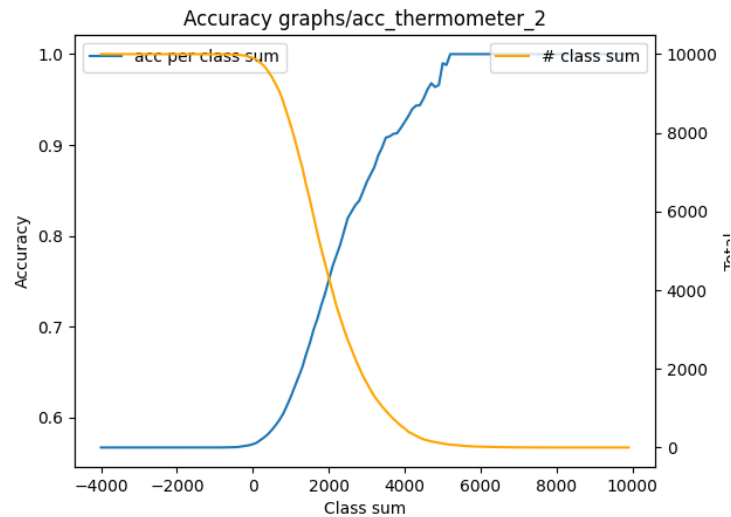
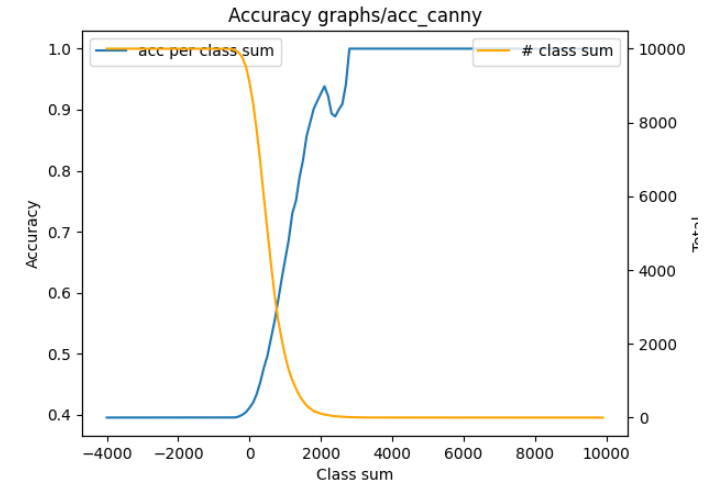
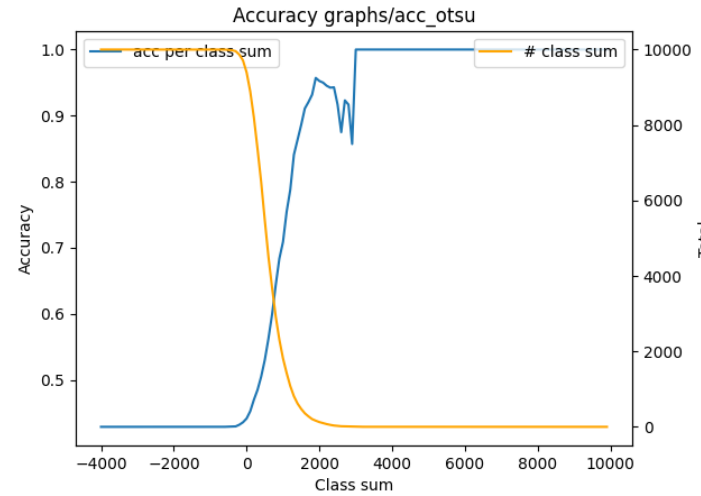
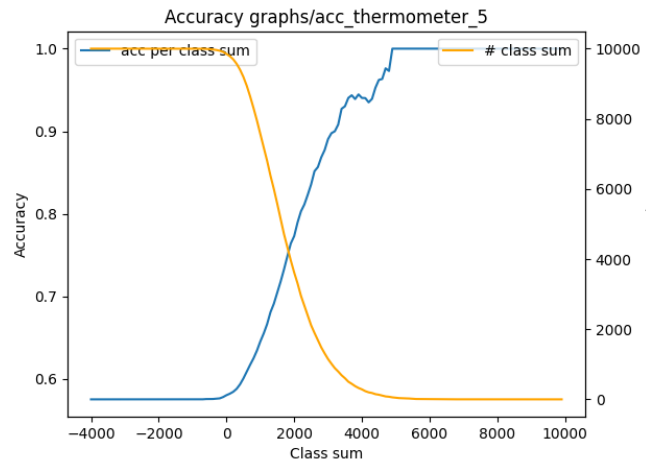
- Thresholding using Otsu's method.
- **42.91% accuracy**



Accuracy plots



Accuracy plots



Optimizations

Voting techniques

- Adding scores + argmax
- Soft vote

Weights

- Performance based weights
- Fixed weights

Current results

- 76.3% accuracy
- 74.8% without voting and weights

	14	44	21	15	8	14	7	61	31
887	6	7	5	3	8	1	14	60	
5	596	56	113	77	53	24	16	3	
7	68	558	67	171	62	24	12	12	
3	52	43	748	31	40	53	13	1	
6	53	144	52	667	25	36	5	1	
5	35	41	29	20	858	1	6	0	
1	40	27	54	57	7	791	5	9	
25	8	10	8	4	9	8	875	17	
59	9	11	6	8	4	8	15	862	
1	2	3	4	5	6	7	8	9	