Supporting Information for

Mechanoluminescent-Triboelectric Bimodal Sensors for Self-Powered

Sensing and Intelligent Control

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Supplementary Figures



Fig. S1 Grayscale scale as a function of stretch rate



Fig. S2 G value as a function of stretch rate



Fig. S3 Stress-strain curve of the composite elastomer



Fig. S4 Stress-strain curves for 2000 tensile cycles



Fig. S5 Fluorescence spectra before and after friction with PET



Fig. S6 Response time and recovery time of the STME



Fig. S7 Time of the ML



Fig. S8 Continuous photos taken with the number 2 written in real time



Frame-by-frame enhancement multiplier 1.05

Fig. S9 Comparison of different frame-by-frame enhancement multiplier

					0																					
			0																							
								55 2	255		52		255	5 25												
															55 2	255										
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Fig. S10 Digitized matrix of handwritten Arabic numerals 2



Fig. S11 Images of extracting red, green and blue colors respectively



Fig. S12 Prediction confusion matrix using 1000, 5000, 10000, 30000, 60000 training volumes



Fig. S13 Prediction confusion matrix using RF, KNN and DT algorithm

D	0	8	Ø	D	Ю	5	5	3	8	0
0,59453	0,51416	8,52831	0,16922	0,21351	0,10925	5,13041	5,54025	3,38594	8,42596	0,51825
5	0	5	8	8	C	5	H	8	0	8
5,4463	0,34422	5,12987	8,7329	8,46369	0,28629	5,21386	4,13651	8,4910	0,33523	8,34323
0	5	3	Ø	8	8	O	S	8	0	0
0,35713	5,723	3,47656	0,38495	8,4762	8,33290	0,29665	5,42360	8,42879	0,48264	0,22711
D	6	5	5	5	5	8	0	Ø	5	0
0,36798	5,4821	5,7671	5,46598	5,51363	5,43246	8,12900	0,3699	0,22753	5,12471	0,36278
0	0	2	3	D	0	0	C	\bigcirc	3	ð
0,43348	0,27329	2,22045	3,17510	0,10489	0,47573	0,30188	0,33493	0,49501	3,17272	0,4730
0	D	5	3	8	0	0	В	8	0	4
0,9711	0,37383	5,59401	3,21286	8,35365	0,3199	0,16461	8,27196	8,42738	0,28031	4,2820

Fig. S14 Arabic numerals in an open source third-party handwritten numeral database