

Table S1: The internal layers detail of the proposed 6B-Net deep CNN model.

No.	Name	Feature depth	Activation	Padding	Stride	Others
1	Image (Input)	227x227x3	-	-	-	-
2	Conv1	9x9x3x128	114x114x128	Same	[2 2]	-
3	RL-1	-	114x114x128	-	-	-
4	Max_P1	-	57x57x128	Same	[2 2]	5x5 Pool size
5	Conv_6b-1	13x13x128x96	29x29x96	Same	[2 2]	-
6	Conv_6b-2	11x11x128x96	29x29x96	Same	[2 2]	-
7	RL-2	-	29x29x96	-	-	-
8	Conv_6b-3	9x9x128x96	29x29x96	Same	[2 2]	-
9	RL-3	-	29x29x96	-	-	-
10	BN-1	-	29x29x96	-	-	96 Channel
11	Conv_6b-4	5x5x128x96	29x29x96	Same	[2 2]	-
12	RL-4	-	29x29x96	-	-	-
13	BN-2	-	29x29x96	-	-	96 Channel
14	Conv_6b-5	3x3x128x96	29x29x96	Same	[2 2]	-
15	RL-5	-	29x29x96	-	-	-
16	RL-6	-	29x29x96	-	-	-
17	BN-3	-	29x29x96	-	-	96 Channel
18	BN-4	-	29x29x96	-	-	96 Channel
19	Conv_6b-6	7x7x128x96	29x29x96	Same	[2 2]	-
20	BN-5	-	29x29x96	-	-	96 Channel
21	RL-7	-	29x29x96	-	-	-
22	BN-6	-	29x29x96	-	-	96 Channel
23	Add-1	-	29x29x96	-	-	-
24	RL-8	-	29x29x96	-	-	-
25	Gmax_p1	-	1x1x96	-	-	-
26	Grp_Conv1	3x3x1x96	1x1x9216	Same	[1 1]	-
27	RL-9	-	1x1x9216	-	-	-
28	Max_P2	-	1x1x9216	Same	[1 1]	5x5 Pool size
29	Drop1	-	1x1x9216	-	-	50% Drop
30	FC_1	-	1x1x4096	-	-	-
31	RL-10	-	1x1x4096	-	-	-
32	Drop2	-	1x1x4096	-	-	50% Drop
33	FC_2	-	1x1x100	-	-	-
34	SMax1	-	1x1x100	-	-	-
35	Classification	-	-	-	-	Cross entropy

Table S2: The comparison of the proposed fusion and selection-based method with existing methods of breast cancer multiclass class classification, where Ac% is representing the accuracy in percent.

Reference	Year	No. of Classes	Ac%
Albashish et al. [28]	2021	08	89.83
Karthiga and Narashimhan [29]	2021	08	89.29
Rao PMM et al. [30]	2021	08	89.00
Bardou et al. [31]	2018	08	88.23
Proposed method		08	90.10

Table S3: The comparison of the proposed fusion and selection-based technique with existing methods of breast cancer multiclass classification, where Ac% is representing the accuracy in percent.

Reference	Year	No. of Classes	Ac%
Yan et al. [27]	2020	04	91.30
Golatkhar et al. [49]	2018	04	85.00
Cao et al. [50]	2018	04	87.00
Mi et al. [40]	2021	04	85.19
Zorgoni et al. [51]	2021	04	93.75
Ibraheem et al. [52]	2022	02	91.37
Proposed method		04	94.20

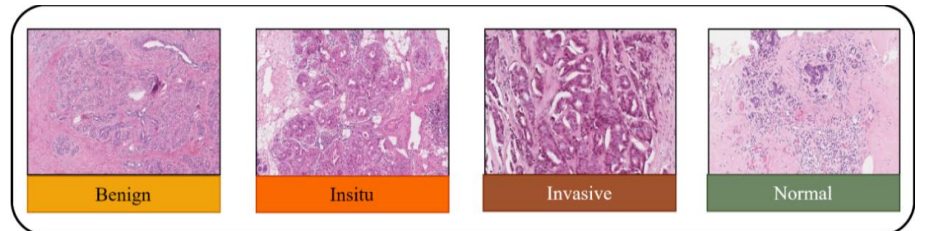


Figure S1: The sample images from breast cancer Pathology Dataset that are publicly available at [27].