

Supplementary Materials: Challenges in the Use of Artificial Intelligence for Prostate Cancer Diagnosis from Multiparametric Imaging Data

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Table S1. Table reports the binary classification tasks in the form (class 1 vs. class 2) and the AI models specifying if DL or ML and the anti-overfitting methods (Data Augmentation or Transfer Learning) adopted for the 18 papers considered, named using the first author and the year of publication.

Paper	Classification Task	AI model
Liu, S. 2017 [17]	(GS ≥ 7 vs. GS < 7)	CNN + DA
Mehrtash, A. 2017 [18]	(GS ≥ 7 vs. GS < 7)	CNN + DA
Seah, J. 2017 [27]	(GS ≥ 7 vs. GS < 7)	CNN + DA + TL
Parra, A. 2018 [28]	(GS ≥ 7 vs. GS < 7)	ML + DA
Jensen, C. 2019 [29]	PZ: (GG1 vs. rest), (GG2 vs. rest), (GG1 + 2 vs. rest), (GG3 vs. rest), (GG4 + 5 vs. rest) TZ + AFS: (GG1 vs. rest), (GG2 vs. rest), (GG1 + 2 vs. rest), (GG3 vs. rest), (GG4 + 5 vs. rest)	ML
Chen, Q. 2019 [30]	(GS ≥ 7 vs. GS < 7)	CNN + DA + TL
Liu, B. 2019 [31]	(GS ≥ 8 vs. GS < 8)	ML
Zhong, X. 19 [32]	(GS ≥ 7 vs. GS < 7 + false positive)	CNN + DA + TL
Toivonen, J. 2019 [33]	(GS ≥ 7 vs. GS < 7)	ML
Yuan, Y. 2019 [35]	(GS = 4 + 3, 4 + 4, 3 + 5, 5 + 3 vs. GS = 3 + 3, 3 + 4)	CNN + DA + TL
Chen, T. 2019 [19]	(GS ≥ 7 vs. GS < 7)	ML + DA
Aldoj, N. 2020 [20]	(GS ≥ 7 vs. GS < 7)	CNN + DA
Bernatz, S. 2020 [21]	(GG ≤ 2 vs. GG ≥ 3)	ML
Litjens, G. 2015 [22]	(GS = 2 + 4, 3 + 4, 2 + 5, 3 + 5 or any with 4 or 5 components vs. GS ≤ 3 + 3 and benign lesions)	ML
Woznicki, P. 2020 [23]	(GS ≥ 7 vs. GS < 7)	ML and CNN
Wang, Z. 2018 [24]	(GS ≥ 7 vs. GS < 7)	CNN
Cao, R. 2019 [25]	(GS ≥ 7 vs. GS < 7), (GS ≥ 4 + 3 vs. GS ≤ 3 + 4), (GS ≥ 8 vs. GS < 8), (GS ≥ 9 vs. GS < 9)	CNN + DA
Schelb, P. 2019 [26]	(GS ≥ 7 vs. GS < 7)	CNN + DA

Legend: GG: Gleason Grade; GS: Gleason Score; CNN: Convolutional Neural Network, DA: Data Augmentation; TL: Transfer Learning; ML: Machine Learning; PZ: Peripheral Zone; TZ: Transition Zone; AFS: Anterior Fibromuscular Stroma.



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