







Weekly Meeting with Dr. Hannah

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1. Paper Submission Coordination

Follow-up with Dr. Jeny and Nabeel on the status of our AIHC 2025 submission:

-  Nabeel confirmed that **all experiments are complete**.
-  Paper draft has been shared with Dr. Jeny for final proofreading.
-  Dr. Jeny expects to send the **final revised draft in 2–3 days**.
-  Tentative target: **Submit to NIT-Calicut AIHC 2025 Conference**.

2. Rebuilding the HNC-CNN Reproducibility Pipeline




-  Last Wednesday, the **entire codebase was deleted**.
-  Within **1.5 days**, the full pipeline was rebuilt:
 - Cloned the repository from GitHub.
 - Set up the Python environment and dependencies.
 - Configured preprocessing, training, validation, and logging mechanisms.
-  Currently **re-running experiments to validate results**.

Table 1. Comparative AUC performance for three clinical outcomes in head and neck cancer across the original published study (“**Paper Results**”), our reproduced models on the same dataset (“**Our Results**”), and our proposed CNN trained on our in-house dataset (“**Our Results with Our Dataset**”)

Events	Cohort	Paper Results (CNN)	Our Results (CNN)	Our Dataset Results (CNN)
		Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV
Distant Metastasis (2y)	Train	0.91 [0.84, 0.96] / 0.87 (0.84–0.92)	0.85 [0.75, 0.93] / 0.xx	-
	Val	0.89 [0.81, 0.96] / 0.86 (0.77–0.96)	0.87 [0.73, 0.98] / 0.xx	-
	Test	0.89 [0.79, 0.98] / 0.83 (0.76–0.90)	0.87 [0.67, 0.99] / 0.xx	-
Locoregional failure (2y)	Train	0.76 [0.64, 0.88] / 0.77 (0.72–0.86)	0.71 / 0.xx	-
	Val	0.77 [0.58, 0.92] / 0.76 (0.72–0.84)	0.72 / 0.xx	-
	Test	0.45 [0.32, 0.57] / 0.53 (0.48–0.59)	0.49 / 0.xx	-
Overall survival (4y)	Train	0.84 [0.75, 0.92] / 0.82 (0.68–0.94)	0.75 / 0.xx	-
	Val	0.80 [0.66, 0.91] / 0.77 (0.62–0.96)	0.77 / 0.xx	-
	Test	0.67 [0.57, 0.77] / 0.63 (0.57–0.72)	0.67 / 0.xx	-

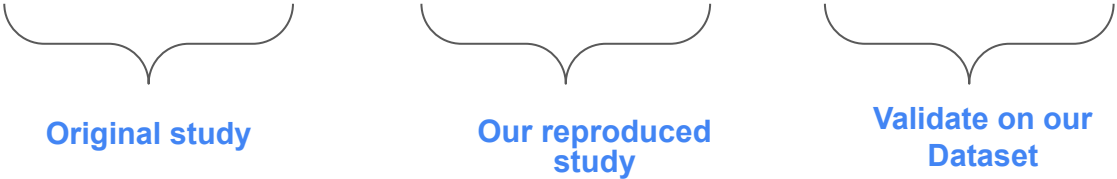


Table 2. Comparative performance (AUCs) including clinical data for predicting multiple clinical outcomes in head and neck cancer across the original study results (“*Paper Results*”), our reproduced CNN and ANN models (“*Our Results*”), and our proposed CNN trained on our in-house dataset (“*Our Results with Our Dataset*”)

Events	Cohort	Paper Results (CNN)	Our Results (CNN)	Paper Results (ANN)	Our Results (ANN)	Our Dataset Results (CNN)
		Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV	Cohort split (CI 95%) / 5-fold CV
Distant Metastasis (2y)	Train	0.91 [0.86, 0.95] / 0.88 (0.81–0.93)	0.87 - > 0.91 / 0.86 - > 0.95	0.87 [0.78, 0.93] / 0.87 (0.81–0.92)	0.84 / 0.76	- / -
	Val	0.89 [0.79, 0.98] / 0.88 (0.81–0.93)	0.86 - > 0.91 / 0.89 - > 0.96	0.79 [0.65, 0.93] / 0.83 (0.79–0.88)	0.68 / 0.80	- / -
	Test	0.93 [0.86, 0.99] / 0.88 (0.86–0.90)	0.87 - > 0.76 / 0.88 - > 0.94	0.87 [0.78, 0.95] / 0.86 (0.81–0.89)	0.89 / 0.82	- / -
Locoregional failure (2y)	Train	0.84 [0.76, 0.93] / 0.77 (0.62–0.87)	0.75 - > 0.60 / 0.92 - > 0.88	0.71 [0.61, 0.80] / 0.74 (0.70–0.84)	0.78 / 0.78	- / -
	Val	0.70 [0.54, 0.84] / 0.72 (0.60–0.84)	0.70 - > 0.74 / 0.87 - > 0.88	0.66 [0.48, 0.82] / 0.71 (0.60, 0.81)	0.54 / 0.69	- / -
	Test	0.59 [0.47, 0.70] / 0.57 (0.53–0.60)	0.57 - > 0.60 / 0.54 - > 0.53	0.41 [0.29, 0.54] / 0.53 (0.50, 0.54)	0.33 / 0.40	- / -
Overall survival (4y)	Train	0.74 [0.64, 0.84] / 0.83 (0.74–0.94)	0.74 / 0.88	0.83 [0.74, 0.90] / 0.83 (0.77–0.85)	0.78 / 0.84	- / -
	Val	0.74 [0.58, 0.86] / 0.81 (0.73–0.93)	0.70 / 0.92	0.75 [0.62, 0.87] / 0.76 (0.71–0.78)	0.74 / 0.79	- / -
	Test	0.69 [0.59, 0.79] / 0.68 (0.63–0.71)	0.71 / 0.68	0.63 [0.52, 0.73] / 0.63 (0.61, 0.64)	0.65 / 0.56	- / -

