

Document Title:

Quality Assurance Report

Project Title : modelCL

Configuration Information

mode	classification
project dir	/home/heejun/Projects/Quality-Assurance/projects/
num_classes	12

Abbreviation

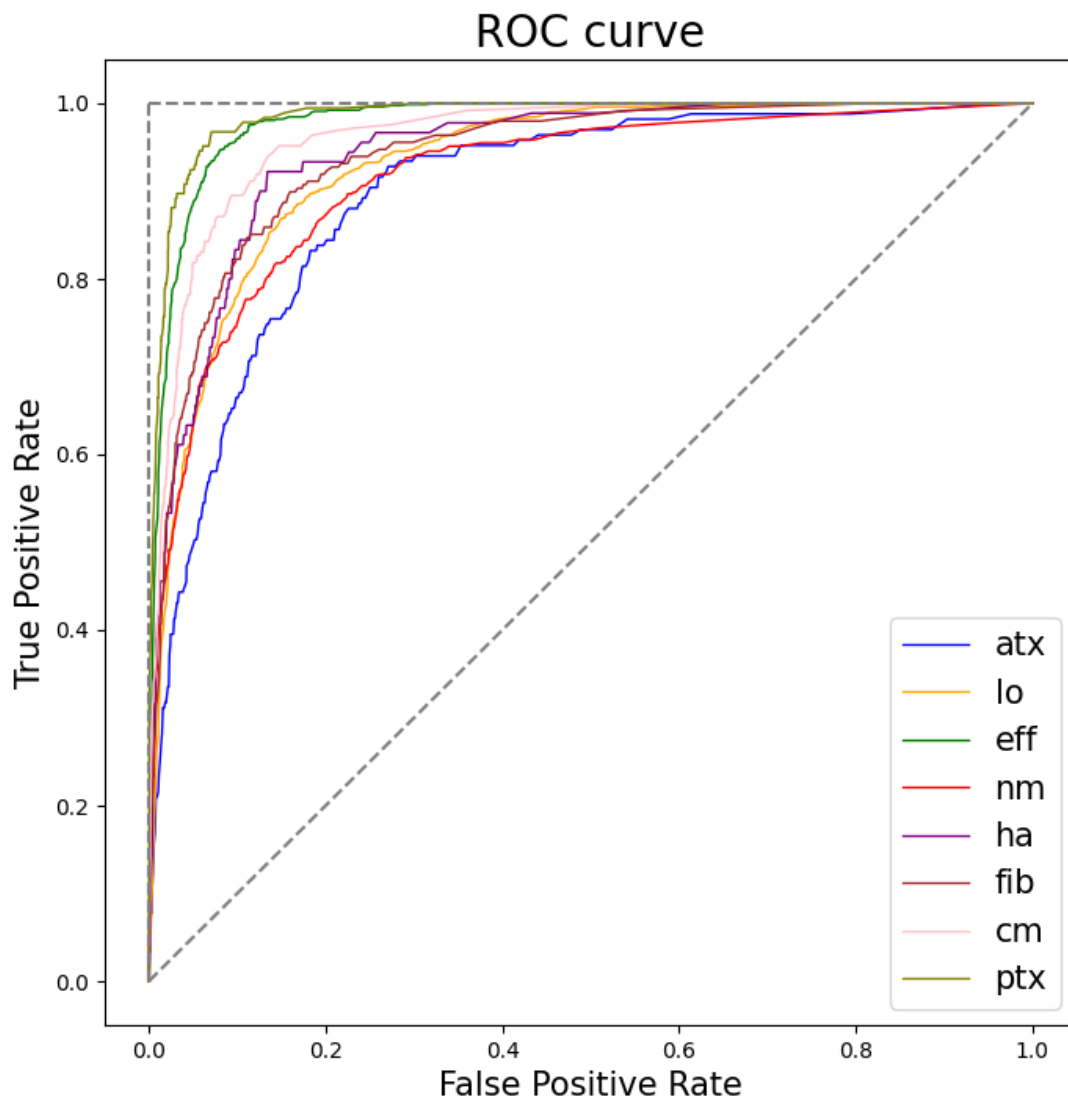
Medical Terms		Performance Metric	
atx	atelectasis	sen	sensitivity
lo	lung opacity	spe	specificity
eff	effusion	acc	accuracy
nm	nodule/mass	ppv	positive prediction value
ha	hilar abnormality	npv	negative prediction value
fib	fibrosis	p-like	positive likelihood ratio
cm	cardiomegaly	n-like	negative likelihood ratio
ptx	pneumothorax	roc	receiver operating characteristic
tb	tuberculosis	auc	area under roc curve
nor	normal		
pna	pneumonia		
ede	edema		

Dataset Name : choi

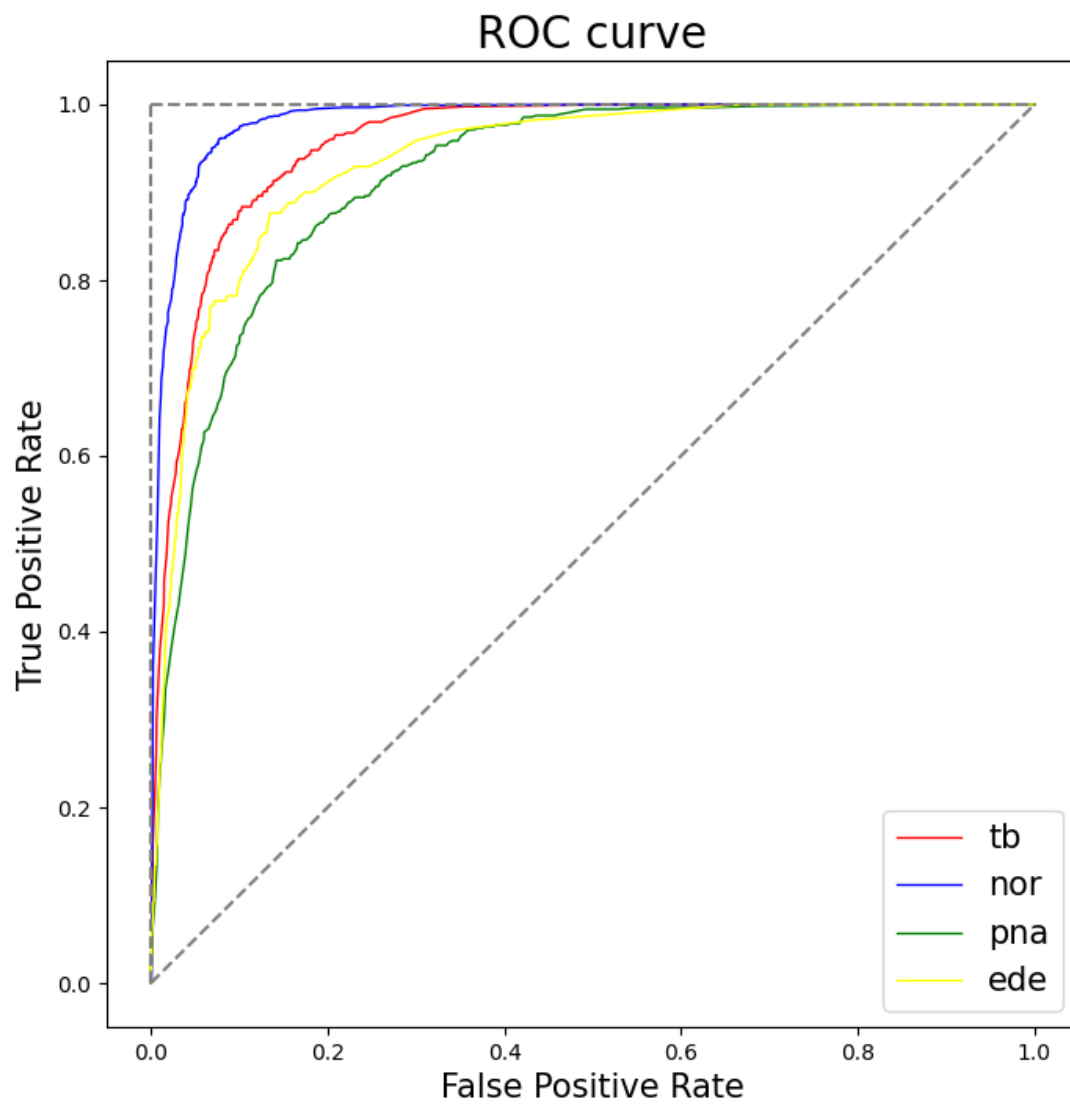
1. Dataset

class	atx	lo	eff	nm	ha	fib	cm	ptx	tb	nor	pna	ede
positive	167	1027	780	533	90	248	248	185	404	1228	558	170

2-1. ROC Curve : findings



2-2. ROC Curve : disease



3-1. Performance : findings

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
atx	0.26	0.904	0.741	0.748	0.13	0.995	3.49	0.13	0.898
	0.6	0.665	0.899	0.89	0.22	0.984	6.584	0.373	
	0.935	0.21	0.992	0.96	0.53	0.967	26.25	0.796	
lo	0.42	0.9	0.808	0.831	0.611	0.96	4.688	0.124	0.931
	0.67	0.78	0.9	0.87	0.724	0.924	7.8	0.244	
	0.71	0.75	0.918	0.875	0.753	0.916	9.146	0.272	
eff	0.635	0.901	0.944	0.936	0.791	0.976	16.089	0.105	0.979
	0.4	0.96	0.9	0.911	0.693	0.99	9.6	0.044	
	0.765	0.835	0.964	0.939	0.845	0.961	23.194	0.171	
nm	0.18	0.899	0.766	0.783	0.366	0.981	3.842	0.132	0.916
	0.52	0.75	0.9	0.881	0.53	0.96	7.5	0.278	
	0.86	0.492	0.977	0.914	0.766	0.928	21.391	0.52	
ha	0.225	0.9	0.868	0.868	0.133	0.997	6.818	0.115	0.943
	0.33	0.833	0.9	0.899	0.159	0.996	8.33	0.186	
	0.965	0.233	0.996	0.979	0.553	0.983	58.25	0.77	
fib	0.19	0.899	0.834	0.838	0.26	0.992	5.416	0.121	0.939
	0.4	0.823	0.899	0.895	0.346	0.987	8.149	0.197	
	0.875	0.524	0.98	0.953	0.634	0.97	26.2	0.486	
cm	0.1	0.899	0.891	0.892	0.348	0.993	8.248	0.113	0.962
	0.115	0.895	0.9	0.9	0.367	0.993	8.95	0.117	
	0.66	0.528	0.986	0.958	0.704	0.97	37.714	0.479	
ptx	0.35	0.903	0.96	0.958	0.519	0.995	22.575	0.101	0.985
	0.06	0.973	0.898	0.902	0.312	0.999	9.539	0.03	
	0.83	0.692	0.989	0.976	0.749	0.985	62.909	0.311	

3-2. Performance : disease

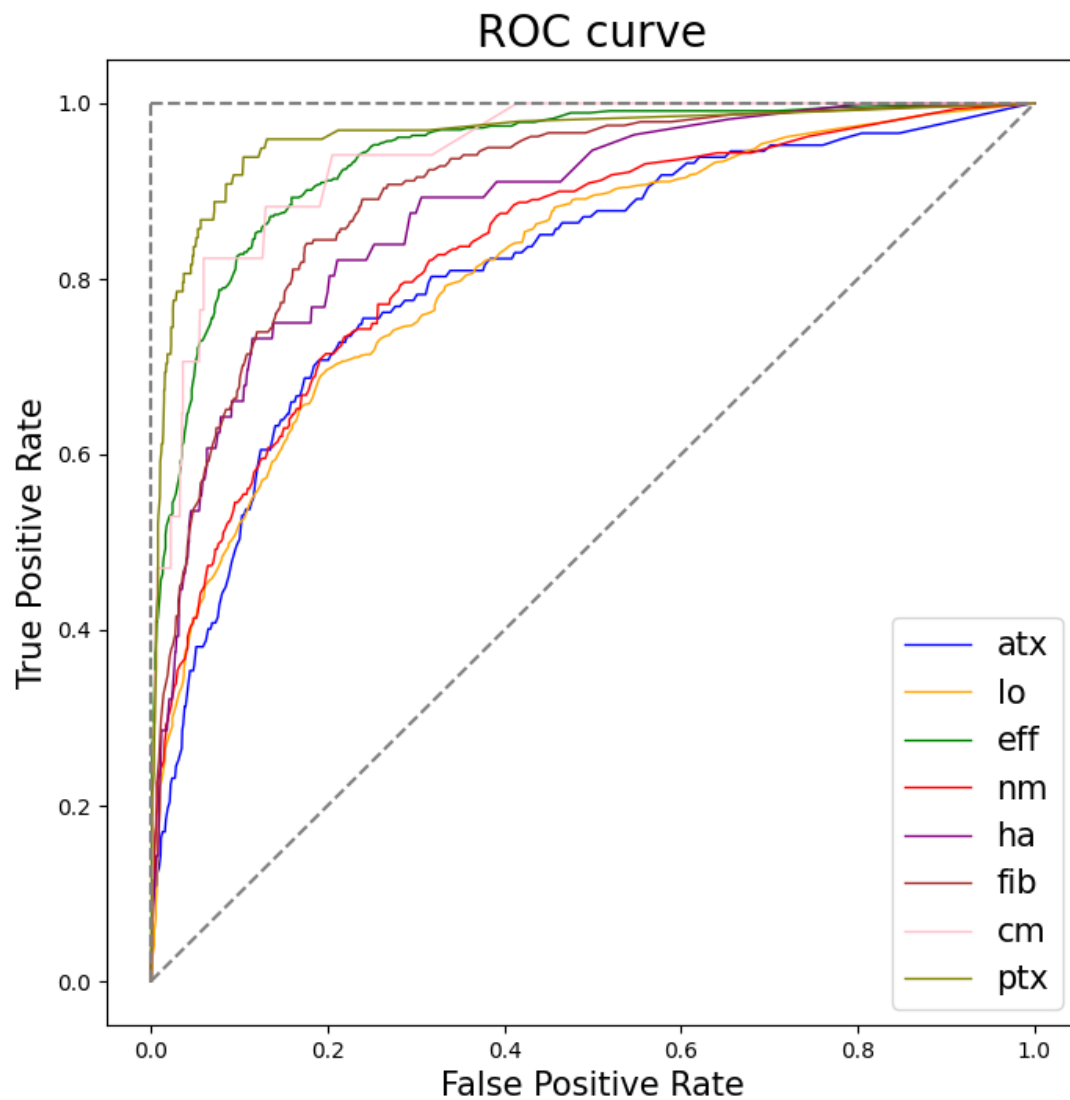
class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.36	0.844	0.796	0.798	0.15	0.992	4.137	0.196	0.956
	0.515	0.749	0.867	0.862	0.193	0.988	5.632	0.29	
	0.925	0.216	0.99	0.958	0.468	0.967	21.6	0.792	
nor	0.675	0.778	0.903	0.871	0.728	0.924	8.021	0.246	0.983
	0.22	0.956	0.679	0.749	0.5	0.979	2.978	0.065	
	0.54	0.861	0.854	0.856	0.665	0.948	5.897	0.163	
pna	0.425	0.955	0.906	0.915	0.705	0.988	10.16	0.05	0.917
	0.785	0.818	0.966	0.938	0.85	0.957	24.059	0.188	
	0.895	0.687	0.981	0.925	0.893	0.93	36.158	0.319	
ede	0.065	0.951	0.655	0.694	0.293	0.989	2.757	0.075	0.935
	0.18	0.899	0.766	0.783	0.366	0.981	3.842	0.132	
	0.835	0.516	0.972	0.912	0.733	0.93	18.429	0.498	

Dataset Name : snu

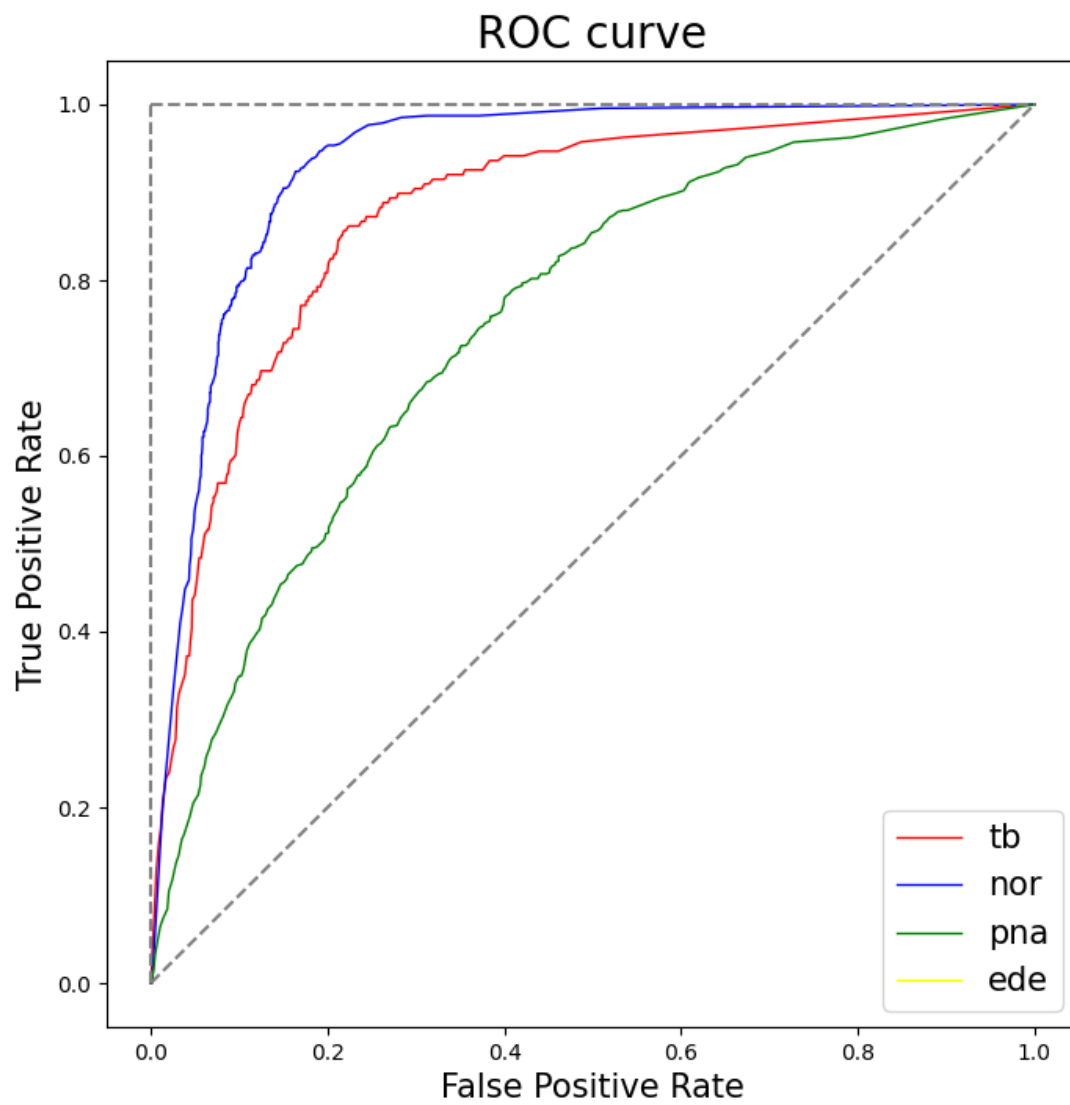
1. Dataset

class	atx	lo	eff	nm	ha	fib	cm	ptx	tb	nor	pna	ede
positive	147	909	466	319	56	238	17	98	188	473	747	0

2-1. ROC Curve : findings



2-2. ROC Curve : disease



3-1. Performance : findings

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
atx	0.145	0.905	0.437	0.472	0.114	0.983	1.607	0.217	0.812
	0.725	0.503	0.9	0.87	0.287	0.958	5.03	0.552	
	0.97	0.082	0.998	0.93	0.8	0.931	41.0	0.92	
lo	0.15	0.899	0.481	0.673	0.595	0.848	1.732	0.21	0.816
	0.71	0.523	0.899	0.726	0.815	0.689	5.178	0.531	
	0.55	0.69	0.808	0.754	0.753	0.754	3.594	0.384	
eff	0.365	0.901	0.818	0.838	0.604	0.964	4.951	0.121	0.939
	0.57	0.828	0.899	0.882	0.716	0.944	8.198	0.191	
	0.725	0.721	0.947	0.894	0.808	0.917	13.604	0.295	
nm	0.065	0.9	0.521	0.582	0.265	0.964	1.879	0.192	0.832
	0.63	0.549	0.899	0.843	0.512	0.912	5.436	0.502	
	0.9	0.292	0.983	0.872	0.769	0.878	17.176	0.72	
ha	0.055	0.893	0.624	0.631	0.065	0.995	2.375	0.171	0.88
	0.555	0.661	0.9	0.893	0.162	0.989	6.61	0.377	
	0.995	0.036	0.999	0.972	0.667	0.973	36.0	0.965	
fib	0.26	0.899	0.738	0.758	0.319	0.982	3.431	0.137	0.9
	0.715	0.676	0.9	0.873	0.481	0.953	6.76	0.36	
	0.95	0.328	0.986	0.907	0.757	0.915	23.429	0.682	
cm	0.04	0.882	0.809	0.81	0.038	0.999	4.618	0.146	0.943
	0.11	0.824	0.9	0.899	0.067	0.998	8.24	0.196	
	0.945	0.118	0.999	0.991	0.5	0.992	118.0	0.883	
ptx	0.17	0.908	0.909	0.909	0.341	0.995	9.978	0.101	0.961
	0.14	0.918	0.899	0.9	0.321	0.995	9.089	0.091	
	0.81	0.694	0.984	0.97	0.694	0.984	43.375	0.311	

3-2. Performance : disease

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.18	0.878	0.485	0.514	0.12	0.98	1.705	0.252	0.877
	0.76	0.435	0.921	0.885	0.306	0.953	5.506	0.613	
	0.97	0.082	0.998	0.93	0.8	0.931	41.0	0.92	
nor	0.17	0.891	0.508	0.684	0.606	0.846	1.811	0.215	0.933
	0.455	0.735	0.735	0.735	0.702	0.766	2.774	0.361	
	0.635	0.606	0.852	0.739	0.777	0.718	4.095	0.462	
pna	0.07	0.979	0.583	0.676	0.42	0.989	2.348	0.036	0.751
	0.85	0.549	0.974	0.874	0.865	0.875	21.115	0.463	
	0.77	0.661	0.954	0.885	0.817	0.901	14.37	0.355	
ede	0.0	1.0	0.0	0.161	0.161	nan	1.0	nan	0.0
	0.0	1.0	0.0	0.161	0.161	nan	1.0	nan	
	0.905	0.282	0.983	0.87	0.763	0.877	16.588	0.73	

Dataset Name : fit

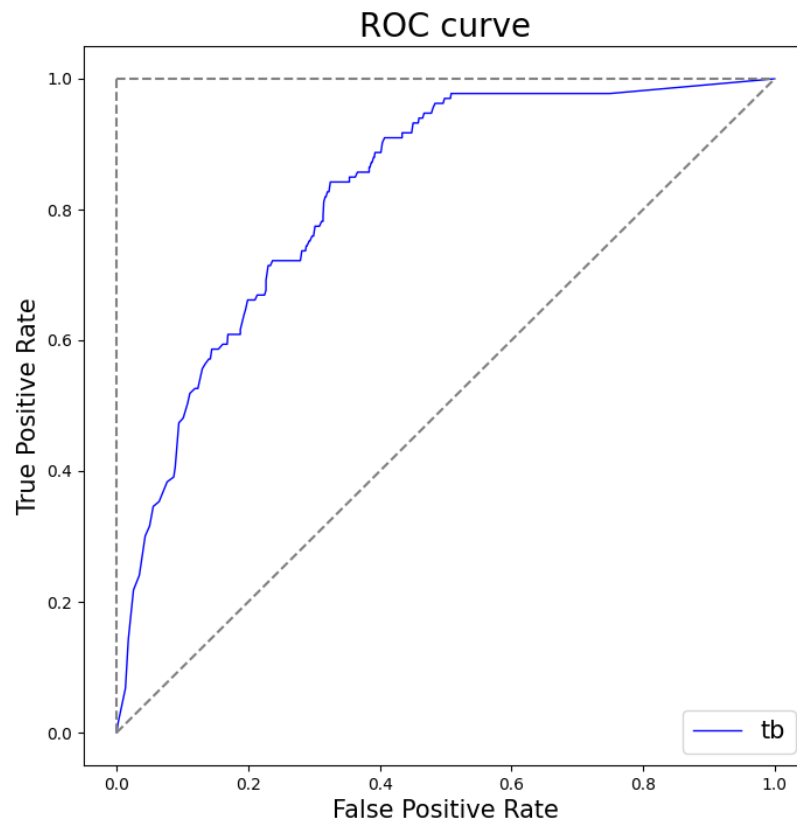
1. Dataset

class	tb	total
positive	133	1032

2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.375	0.902	0.596	0.636	0.248	0.976	2.233	0.164	0.825
	0.93	0.481	0.899	0.845	0.413	0.921	4.762	0.577	
	0.98	0.218	0.974	0.877	0.558	0.894	8.385	0.803	

3. ROC Curve



Dataset Name : plco

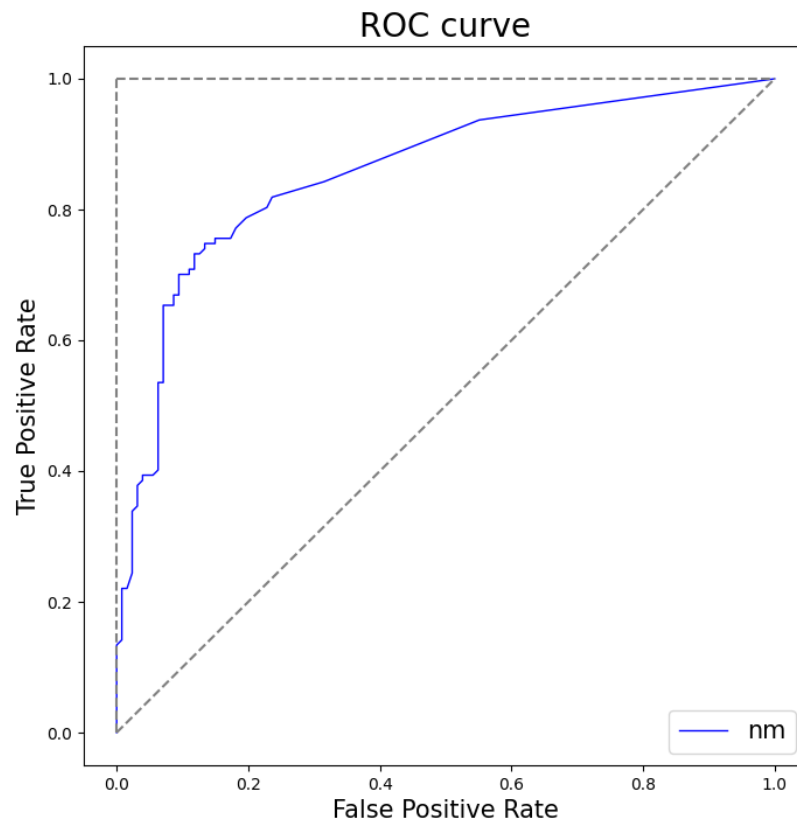
1. Dataset

class	nm	total
positive	127	254

2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
nm	0.01	0.937	0.449	0.693	0.63	0.877	1.701	0.14	0.857
	0.14	0.701	0.906	0.803	0.881	0.752	7.457	0.33	
	0.06	0.748	0.866	0.807	0.848	0.775	5.582	0.291	

3. ROC Curve



Dataset Name : rsna

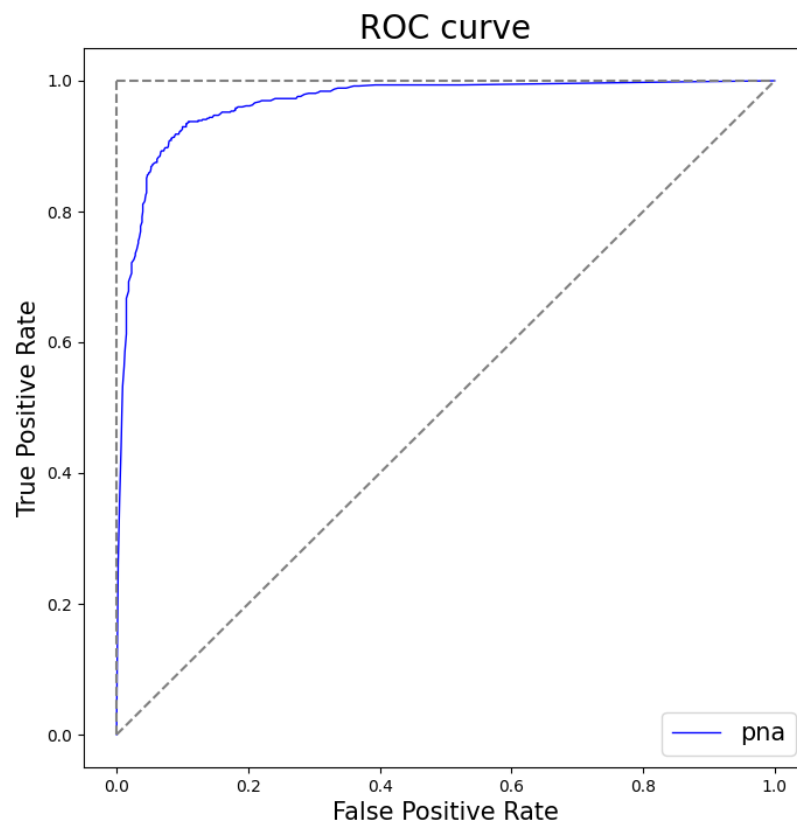
1. Dataset

class	pna	total
positive	625	1505

2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
pna	0.605	0.899	0.922	0.912	0.891	0.928	11.526	0.11	0.967
	0.51	0.93	0.9	0.912	0.868	0.947	9.3	0.078	
	0.65	0.893	0.932	0.916	0.903	0.924	13.132	0.115	

3. ROC Curve



Dataset Name : stpeter

1. Dataset

class	tb	total
positive	167	337

2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.005	0.874	0.541	0.706	0.652	0.814	1.904	0.233	0.843
	0.23	0.689	0.9	0.795	0.871	0.746	6.89	0.346	
	0.23	0.689	0.9	0.795	0.871	0.746	6.89	0.346	

3. ROC Curve

