

Document Title:

# Quality Assurance Report

Project Title :      modelCM

## Configuration Information

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

## Abbreviation

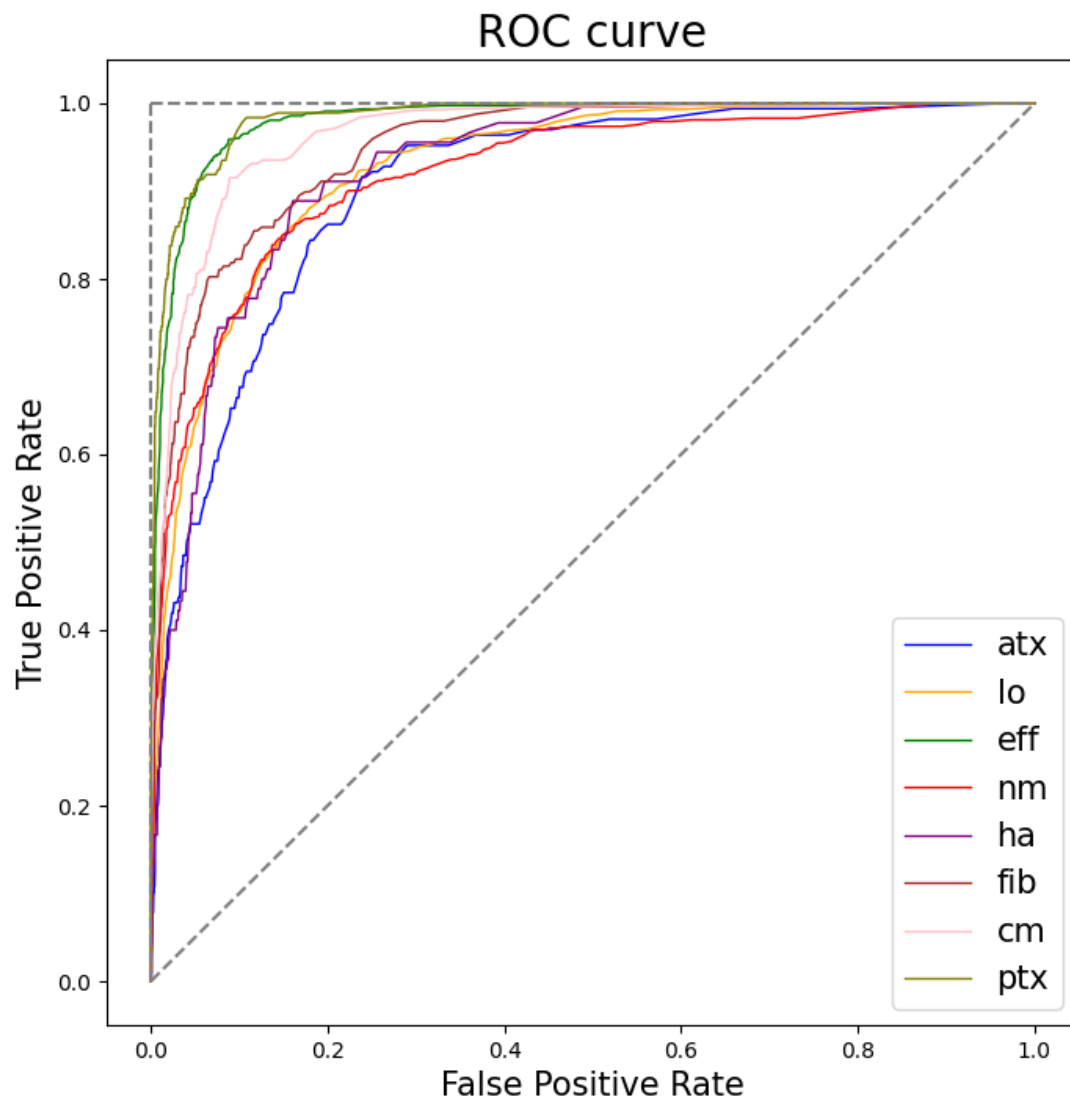
Medical Terms		Performance Metric	
atx	atelectasis	sen	sensitivity
lo	lung opacity	spe	specificity
eff	effusion	acc	accuracy
nm	nodule/mass	ppv	positive prediction value
ha	hilar abnormality	npv	negative prediction value
fib	fibrosis	p-like	positive likelihood ratio
cm	cardiomegaly	n-like	negative likelihood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

Dataset Name : choi

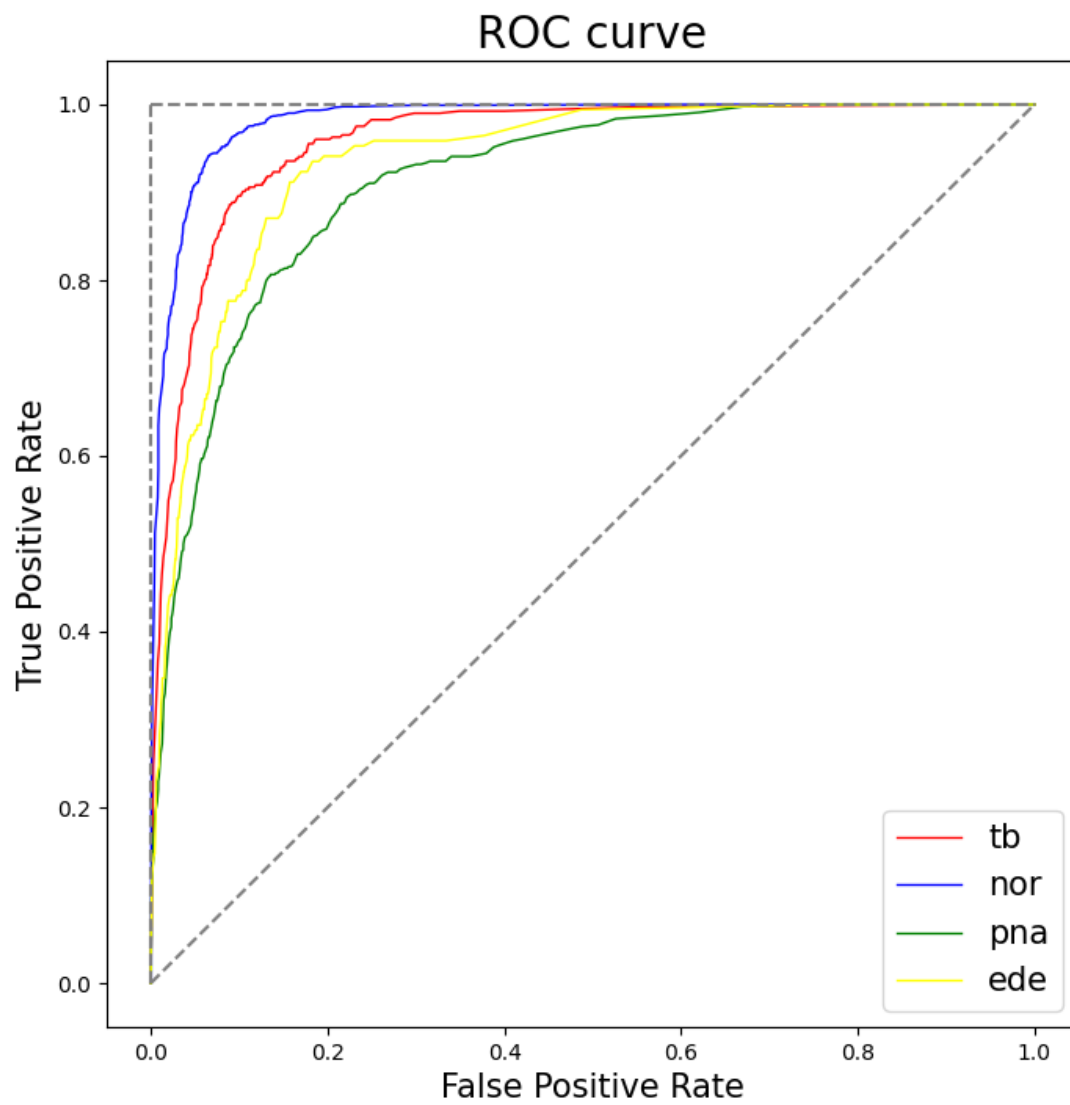
## 1. Dataset

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	0.13	0.904	0.765	0.771	0.141	0.995	3.847	0.125	0.906
	0.325	0.677	0.9	0.891	0.223	0.985	6.77	0.359	
	0.775	0.228	0.993	0.962	0.576	0.968	32.571	0.777	
lo	0.265	0.901	0.792	0.819	0.593	0.96	4.332	0.125	0.927
	0.5	0.762	0.899	0.865	0.718	0.919	7.545	0.265	
	0.605	0.693	0.934	0.873	0.779	0.901	10.5	0.329	
eff	0.445	0.901	0.948	0.939	0.804	0.976	17.327	0.104	0.98
	0.22	0.96	0.9	0.912	0.694	0.99	9.6	0.044	
	0.51	0.881	0.958	0.943	0.833	0.971	20.976	0.124	
nm	0.29	0.901	0.763	0.781	0.363	0.981	3.802	0.13	0.92
	0.55	0.767	0.899	0.882	0.533	0.963	7.594	0.259	
	0.83	0.529	0.98	0.921	0.801	0.933	26.45	0.481	
ha	0.08	0.911	0.765	0.768	0.08	0.997	3.877	0.116	0.925
	0.26	0.756	0.899	0.896	0.144	0.994	7.485	0.271	
	0.93	0.111	0.998	0.978	0.526	0.98	55.5	0.891	
fib	0.095	0.899	0.821	0.825	0.245	0.992	5.022	0.123	0.948
	0.2	0.823	0.902	0.897	0.351	0.987	8.398	0.196	
	0.655	0.54	0.985	0.958	0.698	0.971	36.0	0.467	
cm	0.1	0.895	0.914	0.913	0.403	0.993	10.407	0.115	0.965
	0.085	0.915	0.903	0.904	0.38	0.994	9.433	0.094	
	0.38	0.677	0.977	0.959	0.654	0.979	29.435	0.331	
ptx	0.15	0.903	0.95	0.948	0.46	0.995	18.06	0.102	0.984
	0.05	0.968	0.903	0.906	0.321	0.998	9.979	0.035	
	0.795	0.649	0.995	0.979	0.857	0.984	129.8	0.353	

### 3-2. Performance : disease

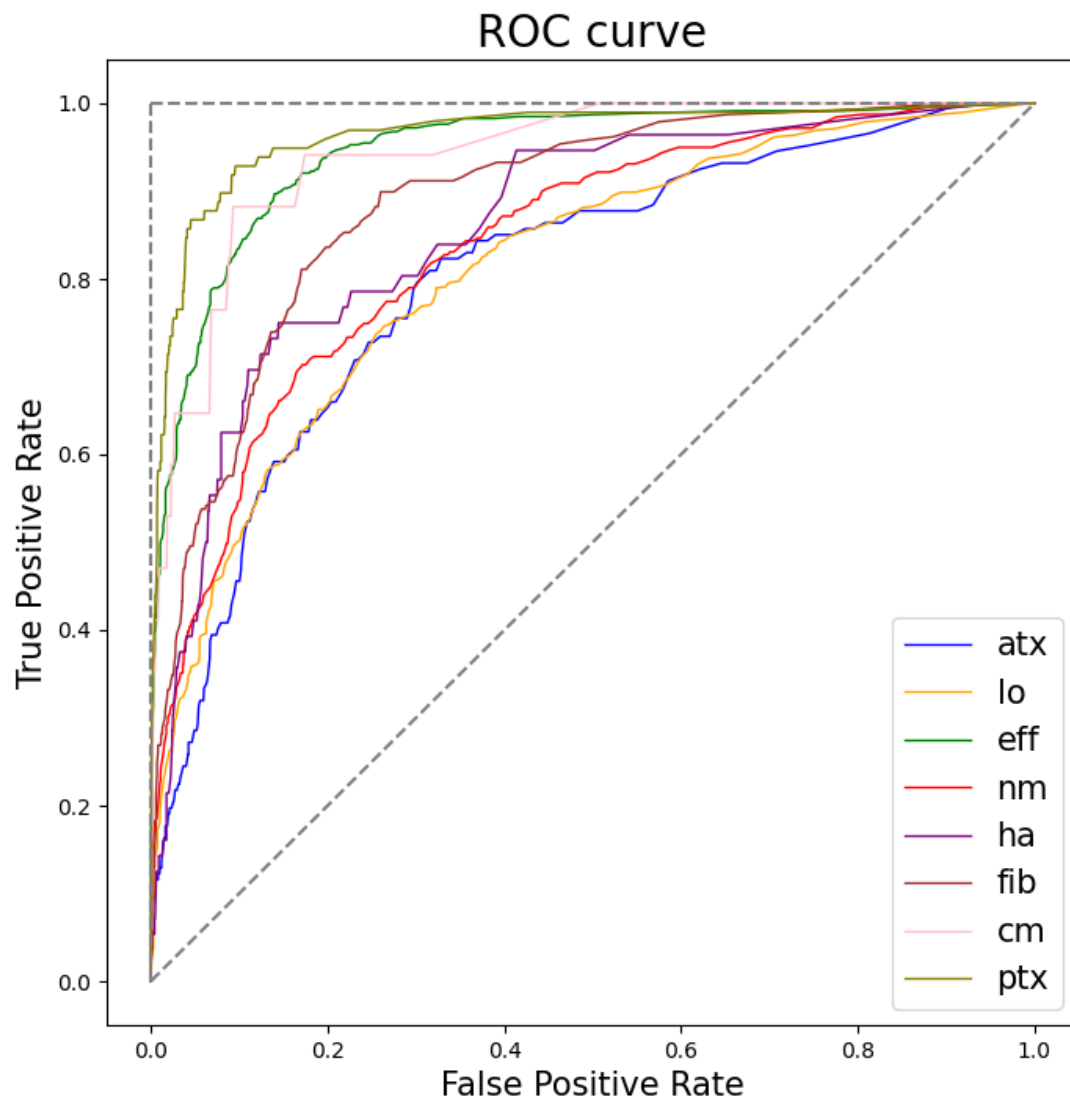
class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.53	0.485	0.961	0.941	0.345	0.978	12.436	0.536	0.958
	0.555	0.473	0.965	0.945	0.367	0.977	13.514	0.546	
	0.935	0.042	0.999	0.96	0.7	0.961	42.0	0.959	
nor	0.645	0.655	0.945	0.872	0.799	0.891	11.909	0.365	0.982
	0.26	0.904	0.789	0.818	0.59	0.961	4.284	0.122	
	0.61	0.691	0.934	0.873	0.779	0.9	10.47	0.331	
pna	0.215	0.963	0.899	0.911	0.692	0.99	9.535	0.041	0.913
	0.5	0.885	0.956	0.943	0.827	0.972	20.114	0.12	
	0.795	0.721	0.983	0.933	0.909	0.937	42.412	0.284	
ede	0.12	0.961	0.585	0.634	0.258	0.99	2.316	0.067	0.935
	0.24	0.916	0.722	0.747	0.33	0.983	3.295	0.116	
	0.75	0.608	0.963	0.916	0.709	0.942	16.432	0.407	

Dataset Name : snu

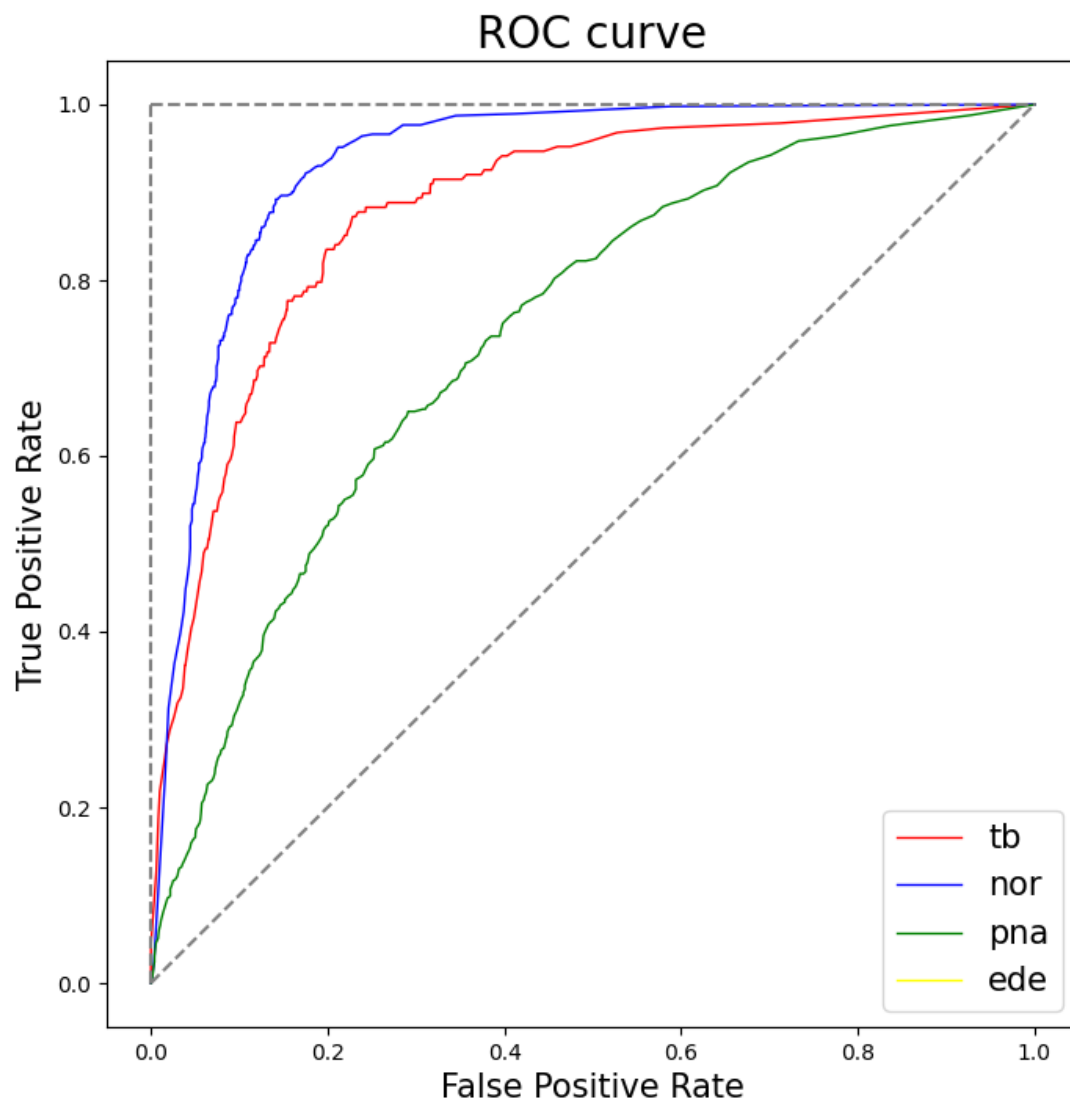
## 1. Dataset

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	0.055	0.912	0.415	0.452	0.111	0.983	1.559	0.212	0.804
	0.44	0.456	0.9	0.867	0.267	0.954	4.56	0.604	
	0.845	0.088	0.999	0.931	0.867	0.932	88.0	0.913	
lo	0.095	0.901	0.443	0.653	0.578	0.84	1.618	0.223	0.812
	0.595	0.503	0.899	0.717	0.809	0.681	4.98	0.553	
	0.335	0.738	0.744	0.741	0.71	0.77	2.883	0.352	
eff	0.255	0.899	0.853	0.864	0.654	0.965	6.116	0.118	0.946
	0.36	0.835	0.9	0.885	0.72	0.947	8.35	0.183	
	0.46	0.788	0.932	0.898	0.781	0.934	11.588	0.227	
nm	0.195	0.9	0.557	0.613	0.281	0.967	2.032	0.18	0.839
	0.62	0.549	0.899	0.842	0.51	0.912	5.436	0.502	
	0.845	0.301	0.981	0.871	0.75	0.88	15.842	0.713	
ha	0.055	0.893	0.603	0.612	0.062	0.995	2.249	0.177	0.86
	0.435	0.625	0.9	0.892	0.154	0.988	6.25	0.417	
	0.96	0.054	1.0	0.973	1.0	0.973	inf	0.946	
fib	0.115	0.899	0.725	0.746	0.309	0.981	3.269	0.139	0.889
	0.425	0.613	0.9	0.866	0.456	0.945	6.13	0.43	
	0.805	0.269	0.992	0.905	0.821	0.909	33.625	0.737	
cm	0.04	0.882	0.837	0.837	0.045	0.999	5.411	0.141	0.942
	0.085	0.882	0.898	0.898	0.07	0.999	8.647	0.131	
	0.7	0.353	0.997	0.992	0.545	0.994	117.667	0.649	
ptx	0.13	0.898	0.909	0.909	0.34	0.994	9.868	0.112	0.964
	0.105	0.929	0.901	0.903	0.329	0.996	9.384	0.079	
	0.82	0.582	0.992	0.972	0.792	0.979	72.75	0.421	

### 3-2. Performance : disease

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.185	0.81	0.684	0.693	0.17	0.978	2.563	0.278	0.881
	0.775	0.129	0.99	0.926	0.5	0.934	12.9	0.88	
	0.975	0.007	1.0	0.926	1.0	0.926	inf	0.993	
nor	0.135	0.877	0.518	0.683	0.607	0.832	1.82	0.237	0.932
	0.43	0.658	0.799	0.734	0.736	0.734	3.274	0.428	
	0.605	0.49	0.908	0.716	0.82	0.677	5.326	0.562	
pna	0.045	0.983	0.628	0.712	0.449	0.992	2.642	0.027	0.739
	0.68	0.624	0.971	0.889	0.869	0.894	21.517	0.387	
	0.425	0.796	0.917	0.889	0.748	0.936	9.59	0.222	
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	
	0.885	0.235	0.989	0.868	0.806	0.871	21.364	0.774	

Dataset Name : fit

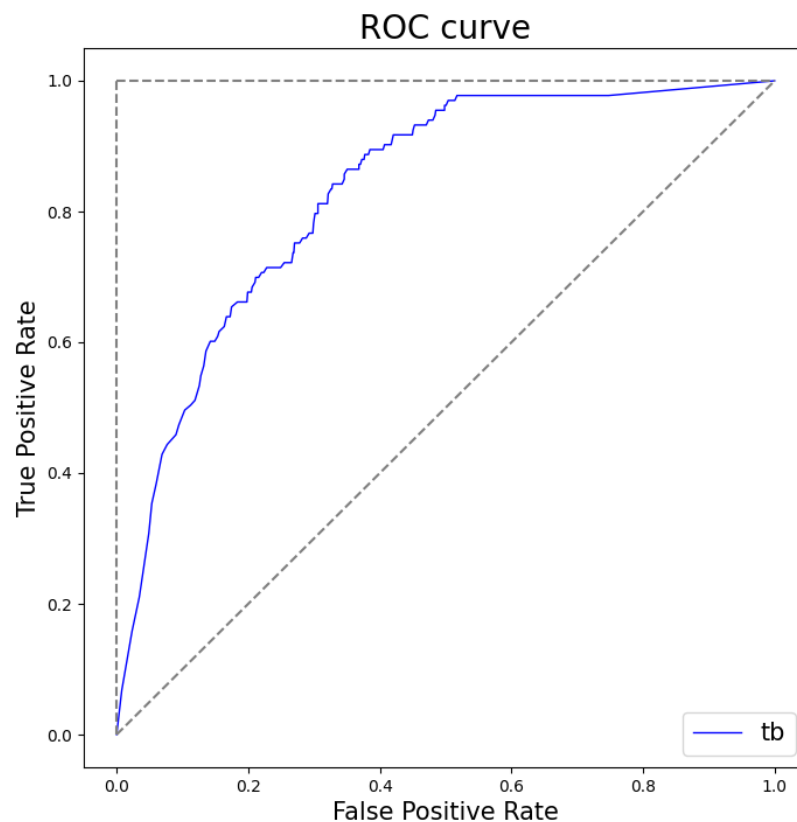
## 1. Dataset

class	tb	total
positive	133	1032

## 2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
tb	0.395	0.902	0.583	0.624	0.242	0.976	2.163	0.168	0.831
	0.94	0.496	0.897	0.845	0.415	0.923	4.816	0.562	
	0.995	0.068	0.992	0.873	0.562	0.878	8.5	0.94	

## 3. ROC Curve



Dataset Name : plco

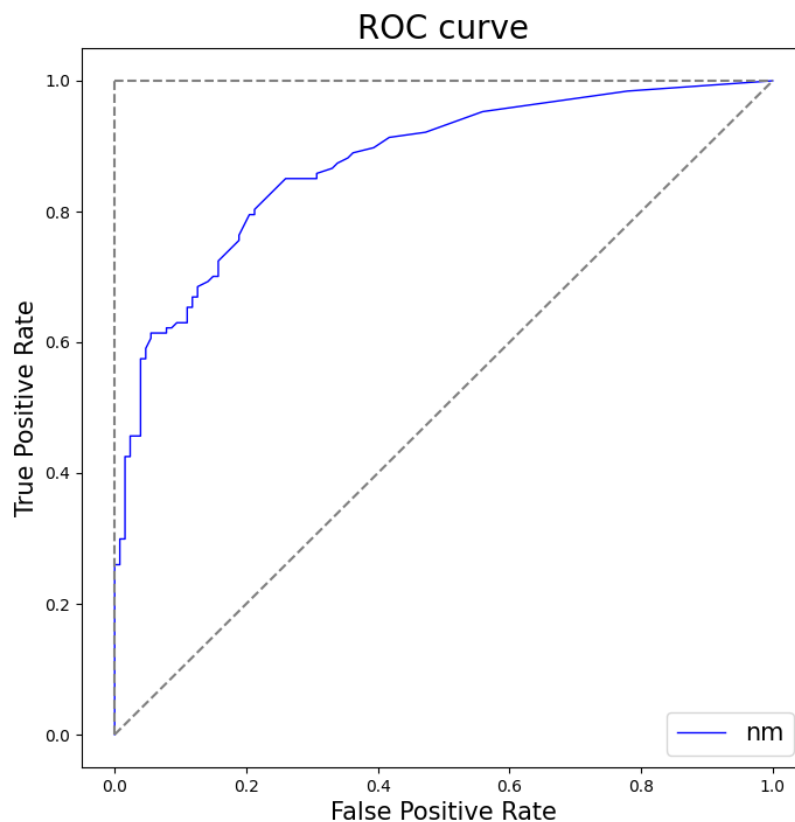
## 1. Dataset

class	nm	total
positive	127	254

## 2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
nm	0.035	0.898	0.606	0.752	0.695	0.856	2.279	0.168	0.873
	0.355	0.63	0.898	0.764	0.86	0.708	6.176	0.412	
	0.08	0.85	0.74	0.795	0.766	0.832	3.269	0.203	

## 3. ROC Curve



Dataset Name : rsna

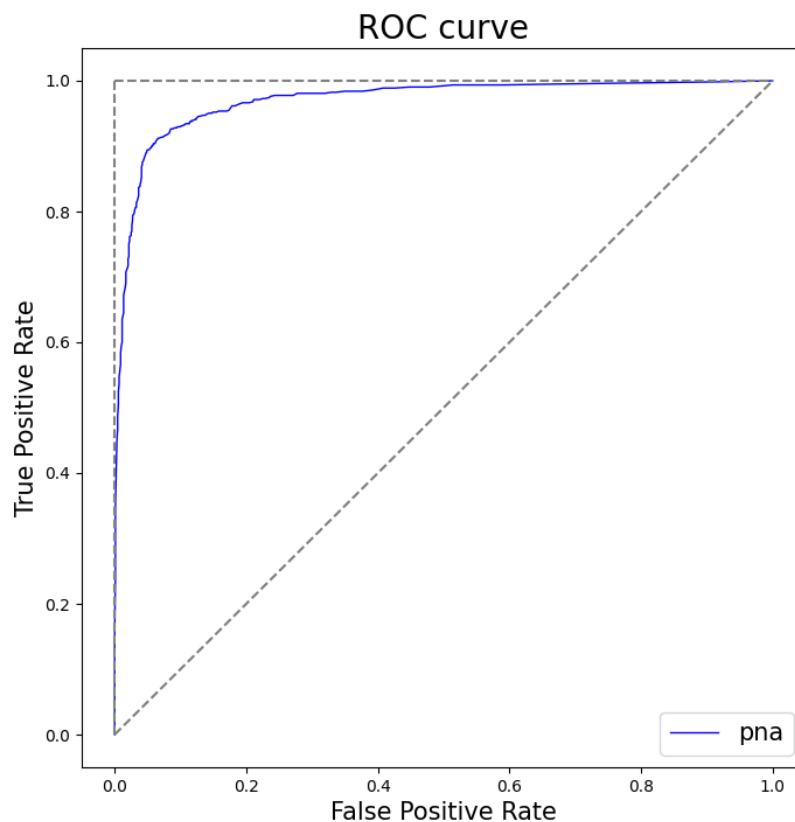
## 1. Dataset

class	pna	total
positive	625	1505

## 2. Performance

class	cut-off	sen	spe	acc	ppv	npv	p-like	n-like	auc
pna	0.53	0.901	0.942	0.925	0.917	0.93	15.534	0.105	0.97
	0.405	0.93	0.9	0.912	0.868	0.947	9.3	0.078	
	0.57	0.894	0.95	0.927	0.927	0.927	17.88	0.112	

## 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	0.928	0.435	0.68	0.618	0.86	1.642	0.166	0.845
	0.325	0.647	0.9	0.774	0.864	0.722	6.47	0.392	
	0.535	0.617	0.941	0.78	0.912	0.714	10.458	0.407	

## 3. ROC Curve

