

제 03회 담낭 용종 연구 보고

2020.12.04



Experiment Settings

➤ 데이터 구성

- 45명의 환자 데이터
- Neoplastic : 17명, Non-neoplastic : 28명

➤ Train & Test Set

- Train Set : 36명
 - 환자 1명 당 2장의 이미지 : 72장
- Test Set : 9명
 - 환자 1명 당 대표 이미지 1장 : 9장

➤ 모델 구성

- GoogleNet
- ResNext
- ShuffleNetV2

➤ 30번 반복 실험

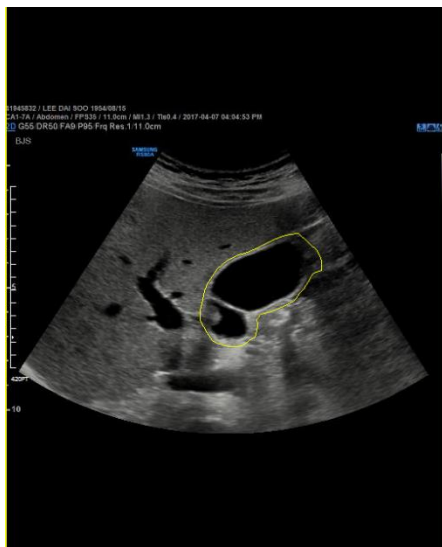
Experiment Settings

Original Image

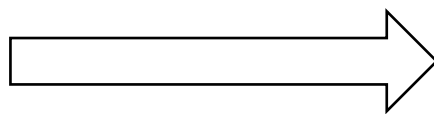
516 X 873



516 X 873



Resize Image
&
Outline Cropped Image

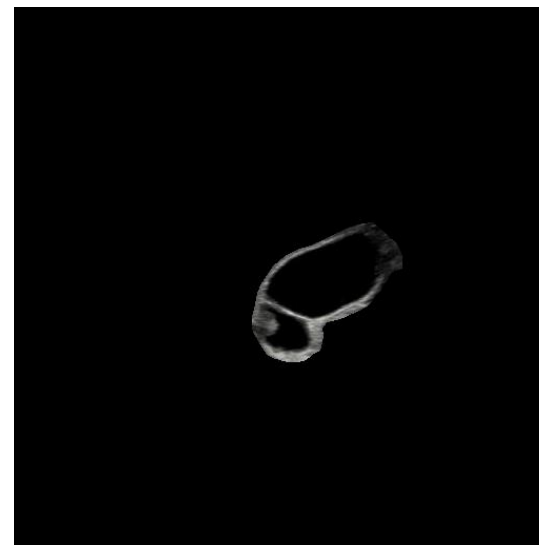


Input Image

512 X 512



512 X 512



Classification Performance Table

Table . Metrics with 95% confidence interval of three NNs (▼/△ indicates that the corresponding method is significantly worse/better than GoogleNet based on paired t-test at 5% significance level).

Model	Metrics	AUC Mean	95% CI		p-value
			Lower	Upper	
GoogleNet	AUC	0.749	0.663	0.835	
	Accuracy	0.624	0.558	0.690	
	Sensitivity	0.645	0.513	0.777	
	Specificity	0.612	0.485	0.739	
ResNext	AUC	0.768	0.709	0.827	0.768
	Accuracy	0.645	0.585	0.708	0.694
	Sensitivity	0.623	0.512	0.734	0.836
	Specificity	0.675	0.563	0.787	0.549
ShuffleNetV2	AUC	0.633	0.552	0.714	0.164
	Accuracy	0.554	0.492	0.616	0.252
	Sensitivity	0.242	0.106	0.378	0.021 ▼
	Specificity	0.779	0.670	1.000	0.168

AUC, area under the curve; CI, confidence interval; NN, neural network. *: p-value < 0.01, **: p-value < 0.001