Supplementary Materials:

Table S1. Clinicopathological characteristics of colorectal cancer patients

Variables	
Age (range in years)	30-88 (median 66, mean 63.7)
Gender, number (%)	
Male	41 (65.1)
Female	22 (34.9)
Location, number (%)	
Colon	43 (68.3)
Rectum	20 (31.7)
Grade, number (%)	
Low (well/moderately differentiated)	60 (95.2)
High (poorly differentiated)	3 (4.8)
Depth of invasion, number (%)	
pTis	1 (1.6)
pT1	0 (0)
pT2	4 (6.3)
pT3	36 (57.1)
pT4a	16 (25.4)
pT4b	6 (9.5)
Lymph node metastasis, number (%)	
pN0	19 (30.2)
pN1	23 (36.5)
pN2	21 (33.3)
Lymphovascular invasion, number (%)	
Absent	18 (28.6)
Present	45 (71.4)
Perineural invasion, number (%)	
Absent	20 (31.7)
Present	43 (68.3)

Table S2. Performance for SegFormer trained on scratch and on pre-trained weights.

		Accuracy	IoU	Sensitivity	Precision	F1-score
Nerve	SegFormer	0.994	0.663	0.865	0.912	0.779
	Pre-trained SegFormer	0.921	0.829	0.921	0.893	0.907
Tumor	SegFormer	0.781	0.533	0.762	0.686	0.694
	Pre-trained SegFormer	0.838	0.686	0.838	0.791	0.814

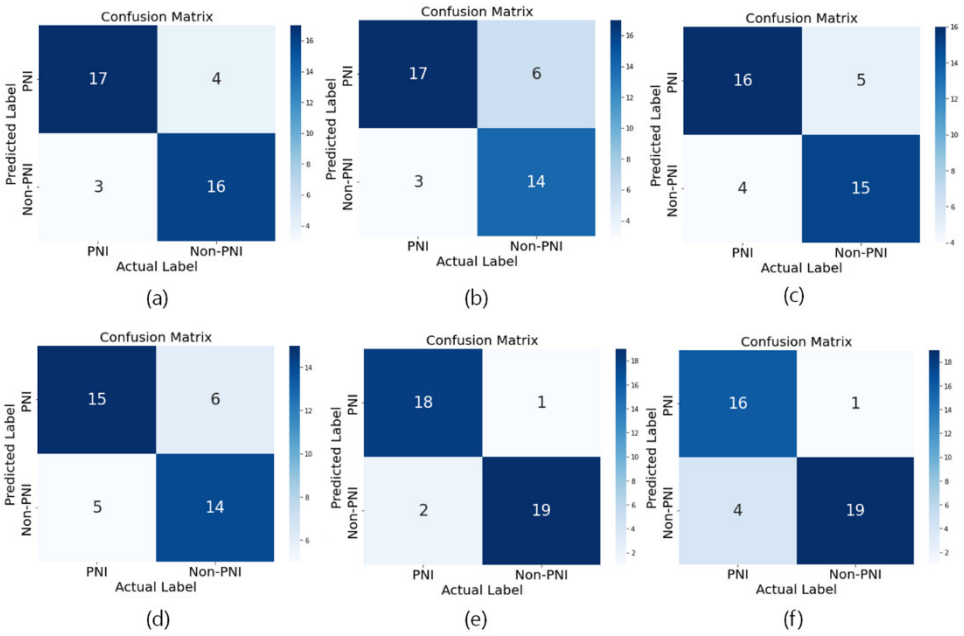

Figure S1. Confusion matrix for the five proposed models: (a) Md1, (b) Md2, (c) Md3, (d) Md4, (e) Md5 and (f) Md6. In each cell, the numbers refer to counts. We also used color in each cell to depict the count within each subgroup category (0 indicated by white, and then the color gradually changes to dark blue as the number increases).

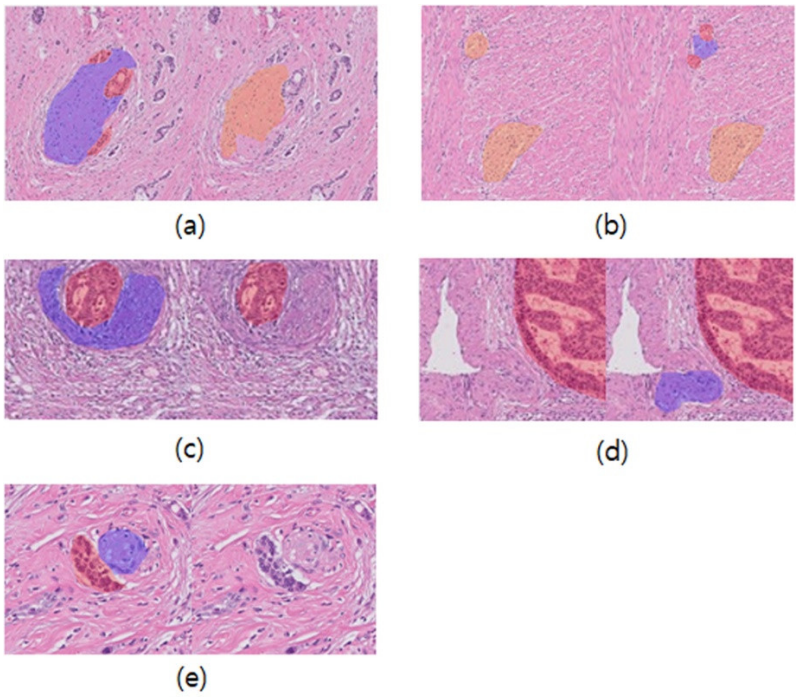

Figure S2. Representative FN and FP cases. The left side of each image represents ground truth, and the right side represents the corresponding prediction. (Left column: false negatives, right column: false positives.) Each image in the first row is either a missing or a misclassified tumor (a and b). Each image in the second row is either a missing or a misclassified nerve (c and d). The bottom image is when both the tumor and the nerve are not detected (e). All the false results from each pipeline are on webpage **(http://pni.ssus.work/).**

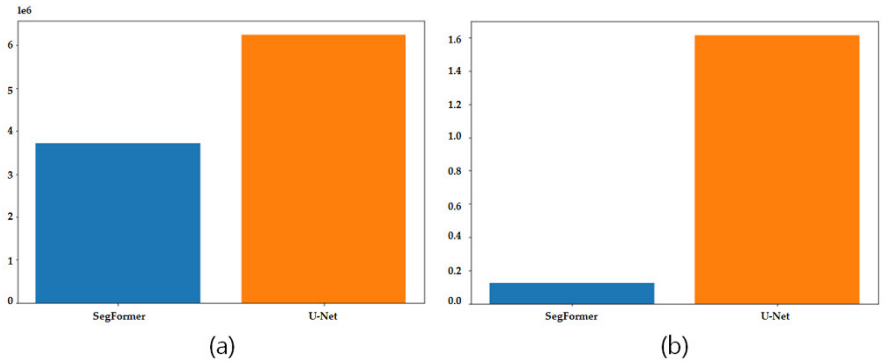

Figure S3. Comparision of the number of parameters and inference time for SegFormer and U-Net: (a) Number of parameters. (b) Each bar represents the average computation time of the same patch. (Left blue bar: SegFormer, right orange bar: U-Net.)