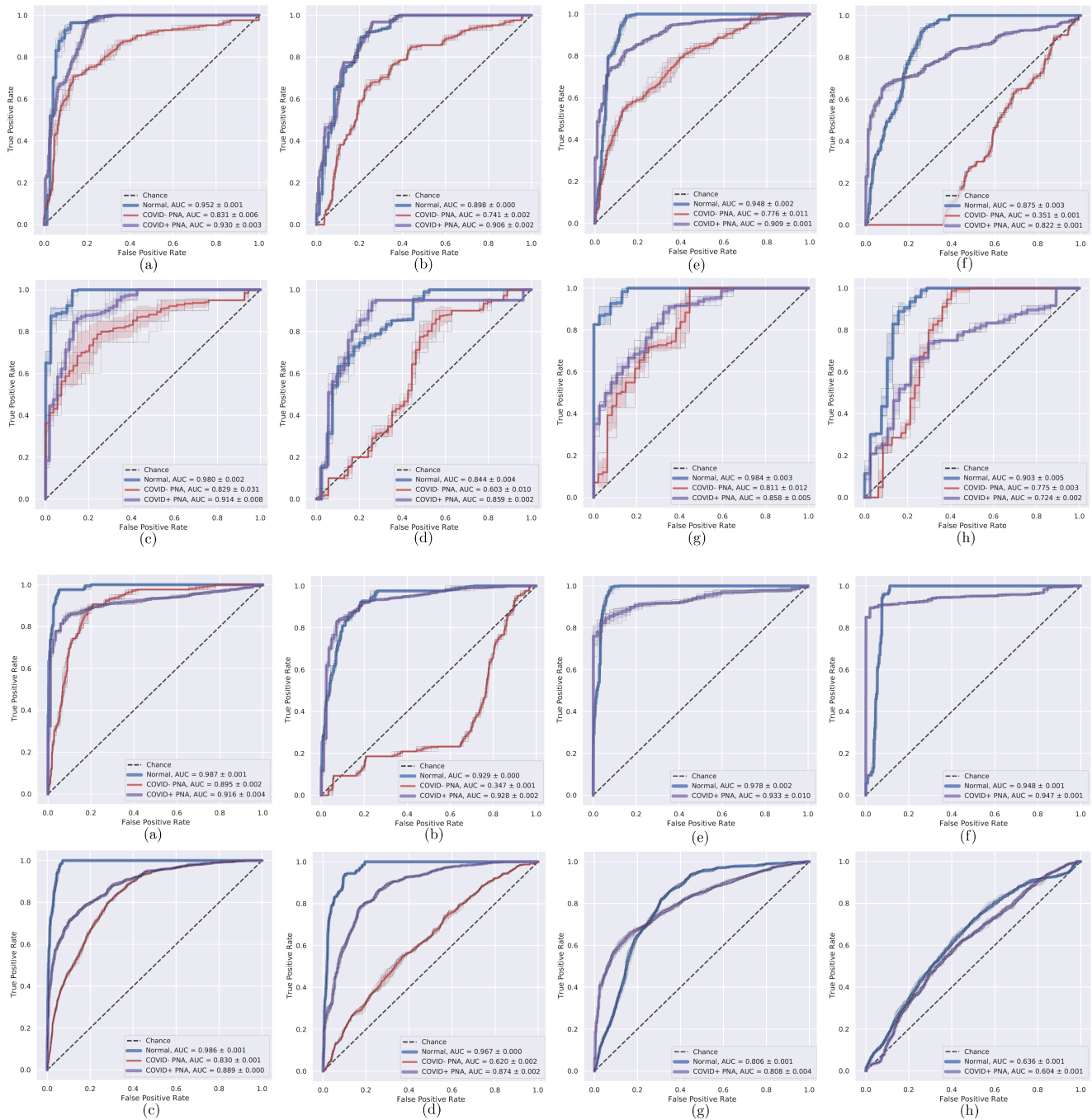


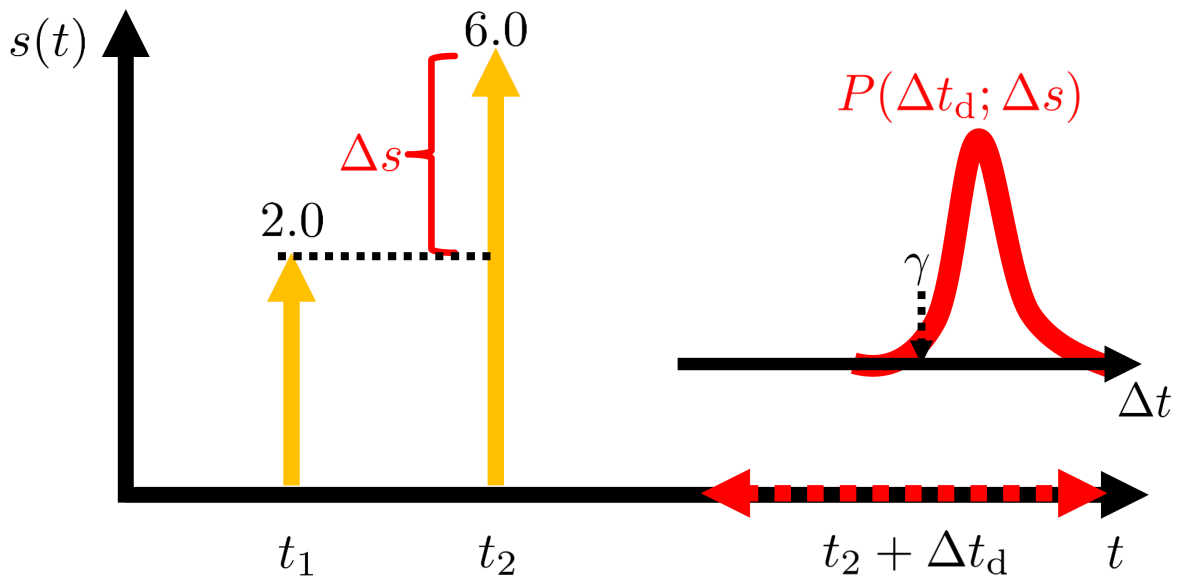
Supplementary Information

CT Scanner Models, Products, and Specifications by Institution										
Institution	Stanford	Henry Ford	Unity Health	UNIFESP	Einstein	TUMS	GUMS	Rajaie	Koç	Kyungpook
Slice Thickness	1mm	1.25mm 1.4mm 2mm	3mm	3mm	1.0mm	0.75mm 1.5mm 2.5mm	1.2mm	1.5mm	1mm 1.5mm	1mm 1.25mm 5mm
Image Matrix	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512
Models	GE LightSpeed VCT Siemens SOMATOM Definition Flash Siemens SOMATOM Force	GE LightSpeed VCT GE Optima CT660 Philips Brilliance 64 Toshiba Aquilion	GE LightSpeed VCT GE Optima CT660 GE Revolution CT	Philips Brilliance 64	Siemens SOMATOM Definition AS Siemens Biograph 40 Toshiba Aquilion	Siemens SOMATOM Emotion 6 Siemens SOMATOM Emotion 16	GE HiSpeed NX/I Dual	Siemens SOMATOM Scope	GE LightSpeed Pro 16 GE Revolution CT Philips Brilliance 64 Siemens SOMATOM Definition AS Siemens SOMATOM Definition Flash	GE Optima CT660 Siemens SOMATOM Definition AS Siemens SOMATOM Perspective

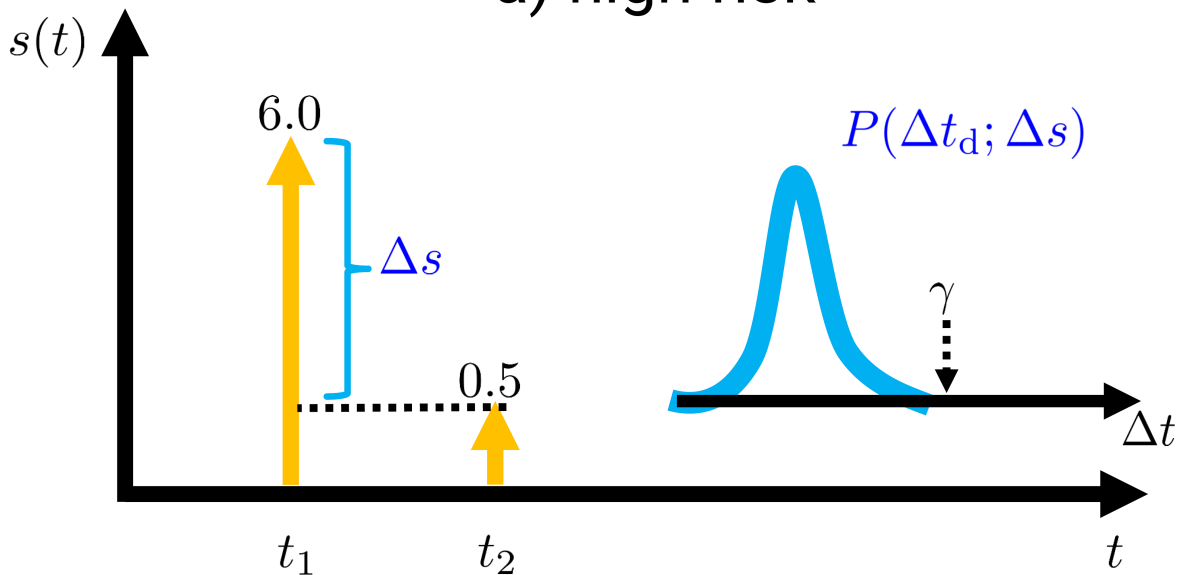
Supplementary Figure 1. Scanner models and slice thicknesses by institution.



Supplementary Figure 2. ROC curves for Table 2 of the manuscript comparing performance with and without training on sites 2 to 11. Sites are 3 (a, b), 4 (c,d), 5 (e,f), 6 (g,h) as shown on the top half, and 8 (a,b), 9 (c,d), 10 (e,f), 11 (g,h) on the bottom half.



a) high-risk



b) low-risk

Supplementary Figure 3. Two scenarios of using DCD features to predict prognosis: patient A (top, a) is scanned on day t_1 and t_2 . DCD predicts COVID scores of $s(t_1) = 2$ and $s(t_2) = 6$, indicating a significant rise in COVID-like features. If scan dates are close apart, then it is reasonable to say that patient A's prognosis is "high-risk" and may remain hospitalized for longer than average $\Delta t_d > \gamma$. Conversely, patient B's prognosis is classified as "low-risk". P represents the probability density function of the time-to-discharge parameter Δt_d .