

Pathology-specific Data Augmentation

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WHAT

THE TOPIC

- What is Digital Pathology
- What is Staining in Pathology
- Applicable Methods

SOLUTIONS

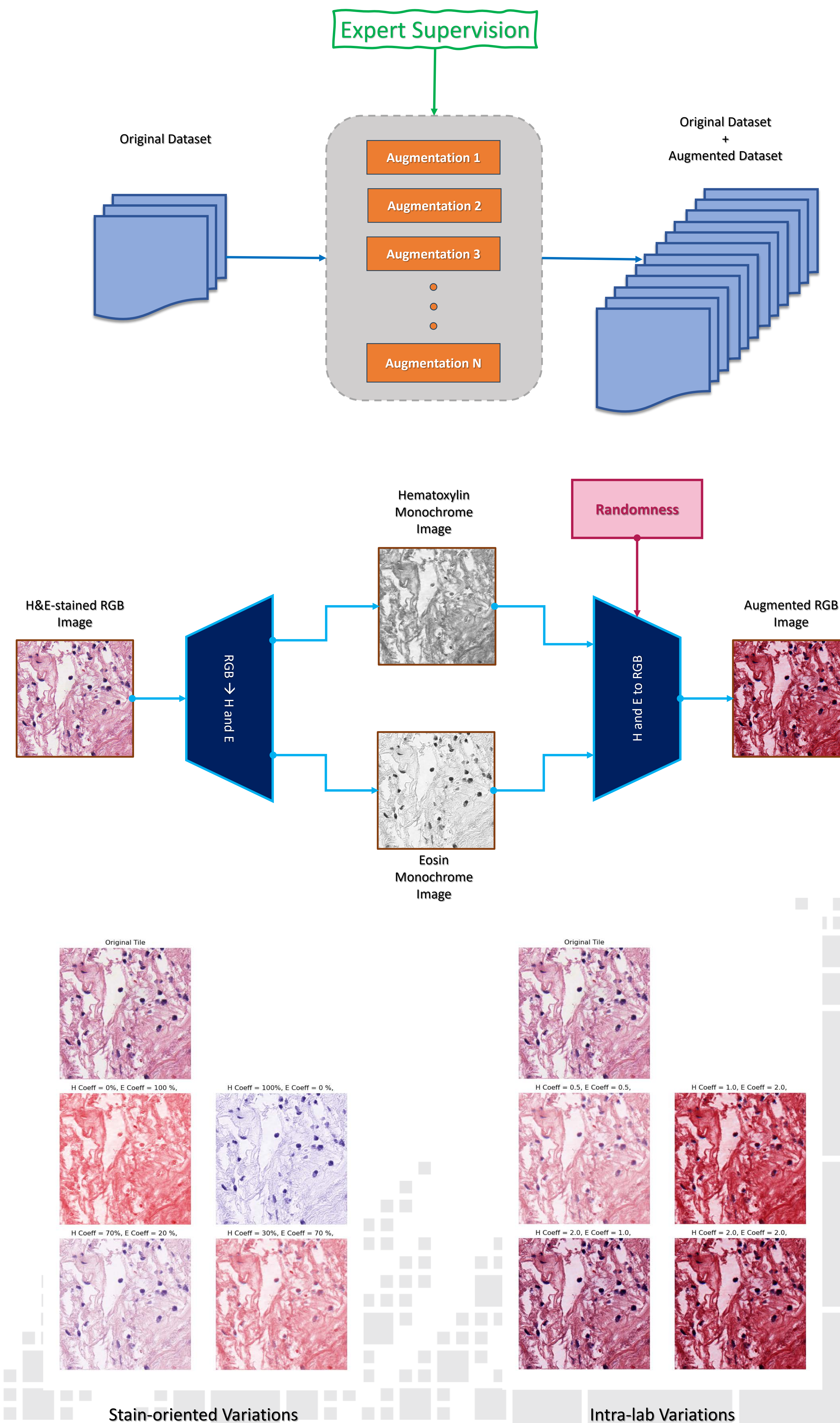
- Image Processing Techniques
- Traditional Machine Learning Methods
- Deep Learning

CHALLENGES

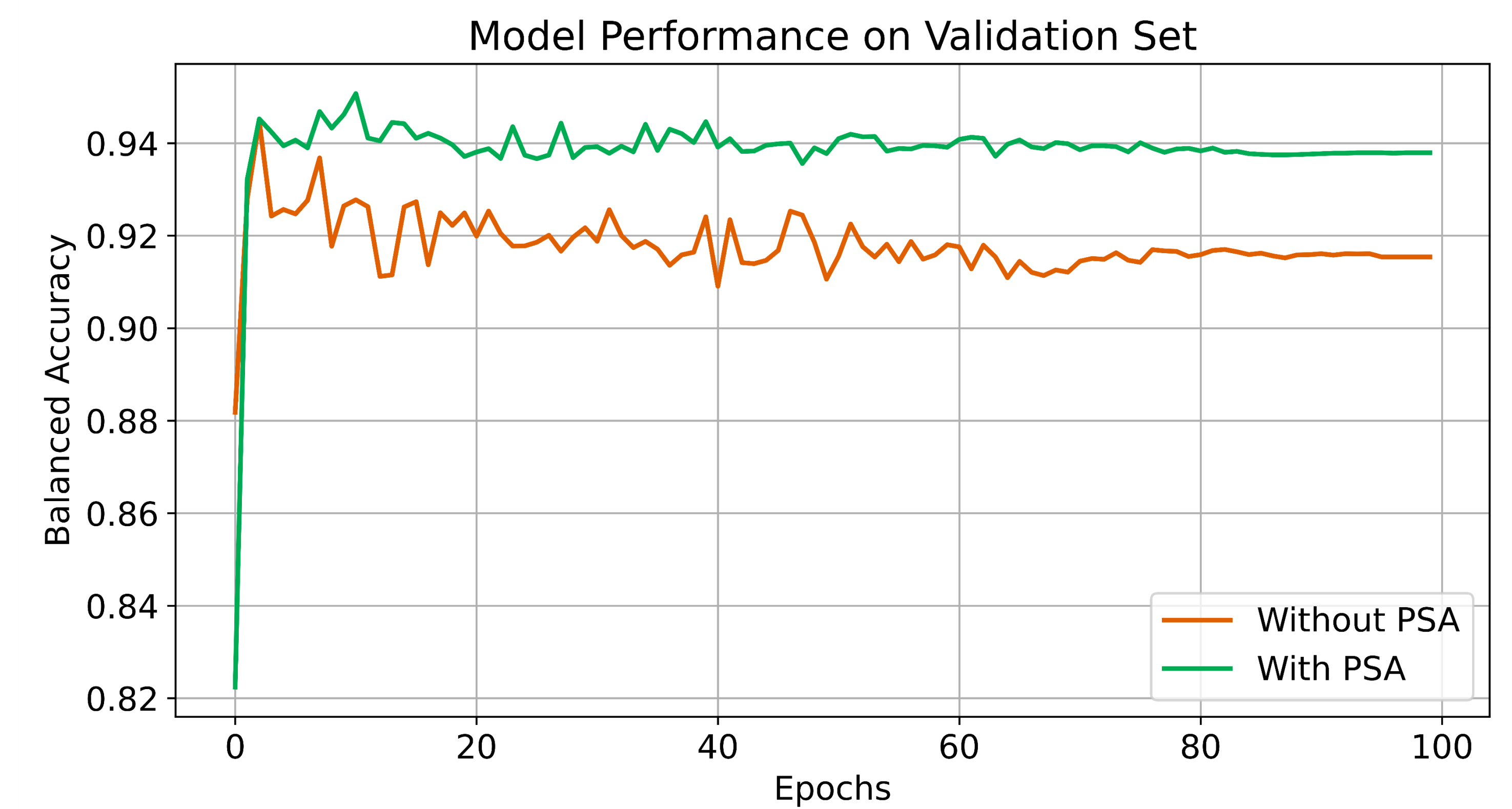
- Variability in Staining and Scanning
- Tissues Complexity
- Limited Data
- Generalization vs Specificity
- One-Size-Fits-All Models

HOW

PATHOLOGY-SPECIFIC AUGMENTATION



RESULTS



Scenario	Actual Class	Confusion Matrix				Balanced Accuracy	C-Kappa	F1 Score	Precision	Recall
		Normal	Low-risk	High-risk	Necrosis					
Without PSA	Normal	6899	9	36	319	90.52%	82.04%	88.83%	87.32%	90.52%
	Low-risk	4	591	2	1					
	High-risk	23	18	348	0					
	Necrosis	181	5	10	728					
With PSA	Normal	7189	3	23	48	94.04%	92.17%	94.17%	94.53%	94.04%
	Low-risk	0	575	23	0					
	High-risk	8	6	375	0					
	Necrosis	133	4	5	782					

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