

TUE-AM-318

JUNE 18-22, 2023

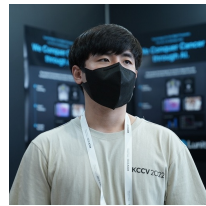
CVPR VANCOUVER, CANADA



Benchmarking Self-Supervised Learning on Diverse Pathology Datasets



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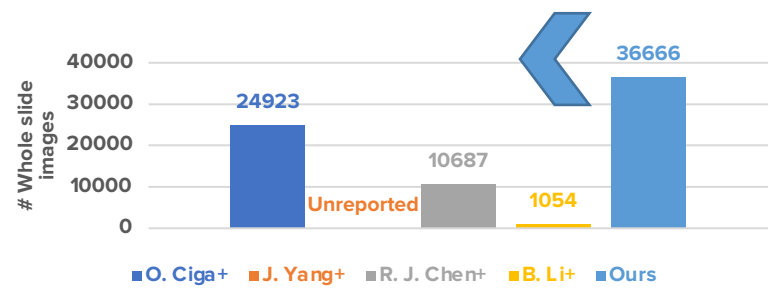
Sérgio Pereira



SSL Meets Pathology

- The largest-scale Self-supervised Learning Study on Pathology

- 33M patches from **36,666** WSIs



- Performing more extensive benchmarking study

	O. Ciga+	J. Yang+	R. J. Chen+	B. Li+	Ours
Multiple SSL methods	✗	✓	✗	✗	✓
Multiple Arch.	✗	✗	✗	✗	✓
Multiple tasks	✓	✗	✗	✗	✓

➔ This setting produces useful insights!

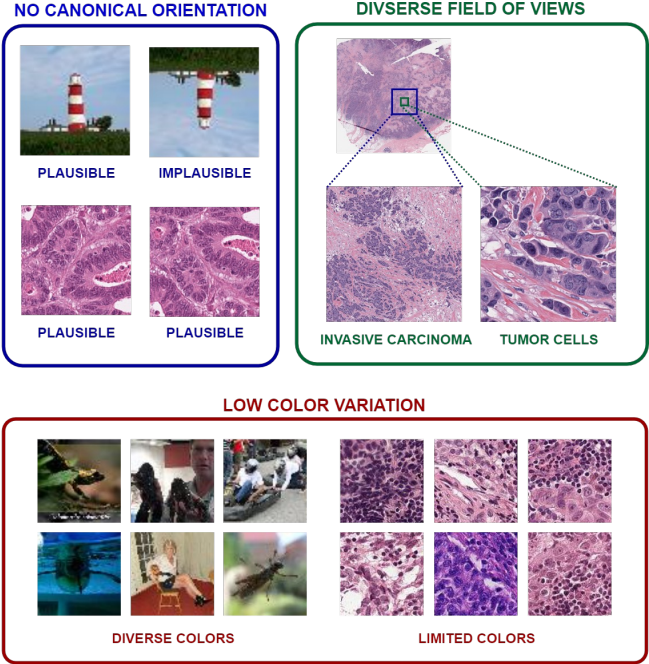


Recipes for Pathology SSL

- Adopt pathology-specific augmentations

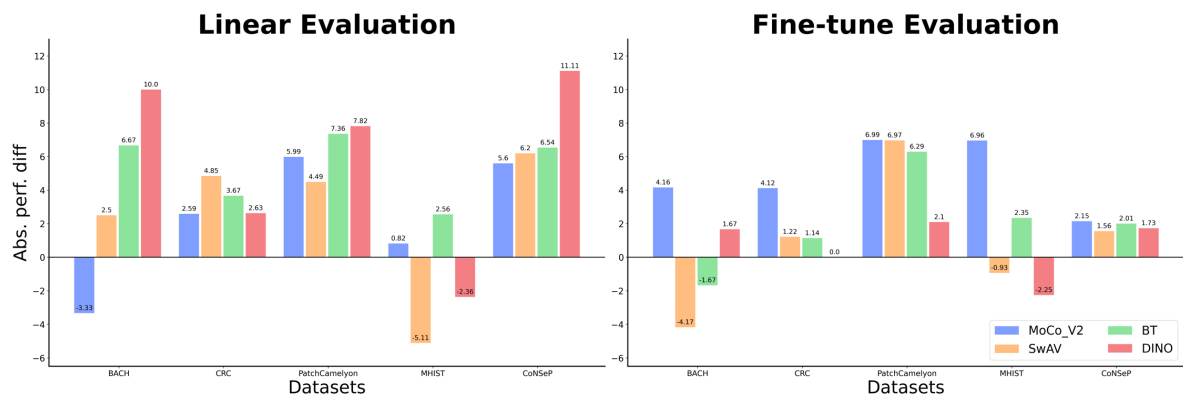
- Vertical Flip
- Stain Augmentation
- Multiple FoVs

Linear eval	BACH	CRC	PCam	MHIST	CoNSeP
Baseline	84.2	94.2	84.5	78.0	40.9
+ our aug. tech	87.5 (+3.3)	94.7 (+0.5)	87.6 (+3.1)	79.5 (+1.5)	41.3 (+0.4)



Summary

- Domain-aligned pre-trained weights surpasses **ImageNet** weights



- Our pre-trained weights are available!

- ResNet
- VisionTransformer



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