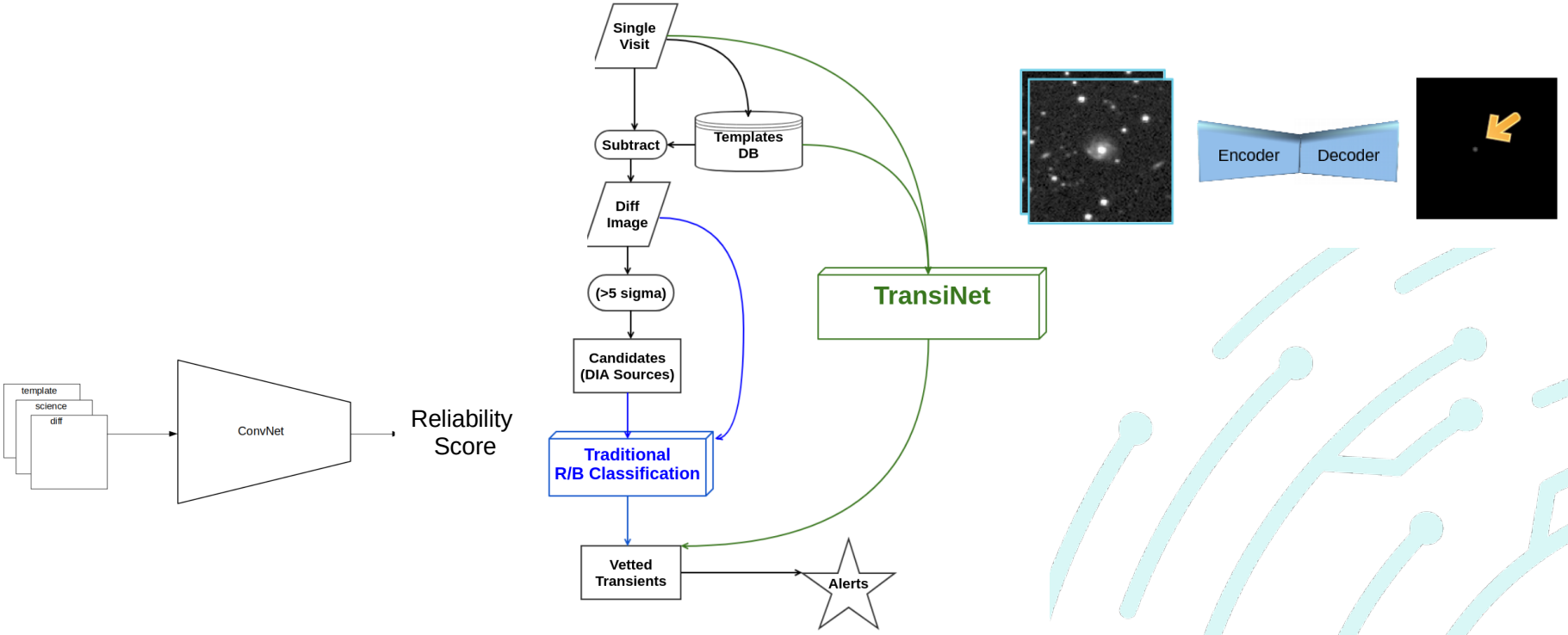
TransiNet for LSST:
Deep Transient Detection towards Higher Completeness in the Unseen Domain

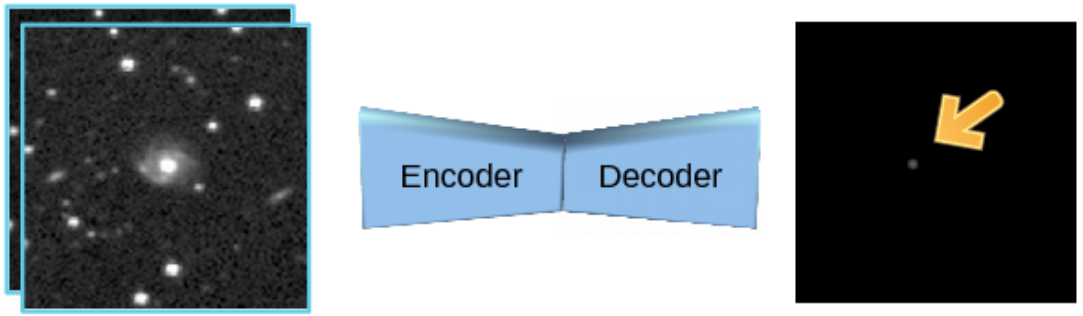
Nima Sedaghat
AI Lead, LSST

The two paths



What is TransiNet ?

Image-generating Deep ConvNet for Transient Hunting Since 2018!

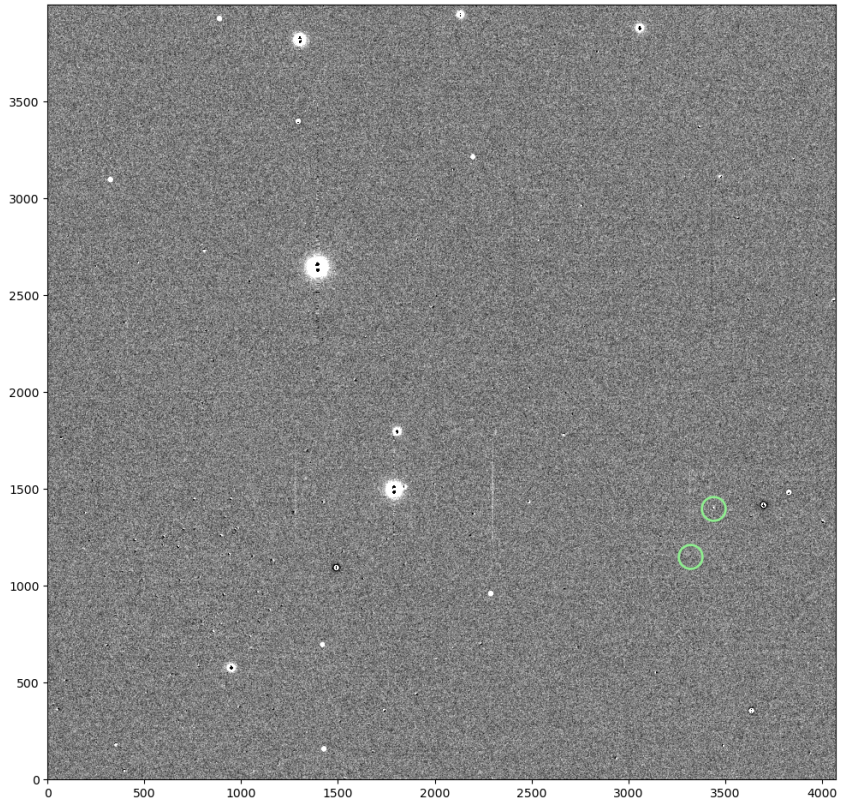


Why?

Completeness:
The 5-sigma tradition

Covariate Shift
&
Domain Adaptation

How does it look like in a conventional scheme?



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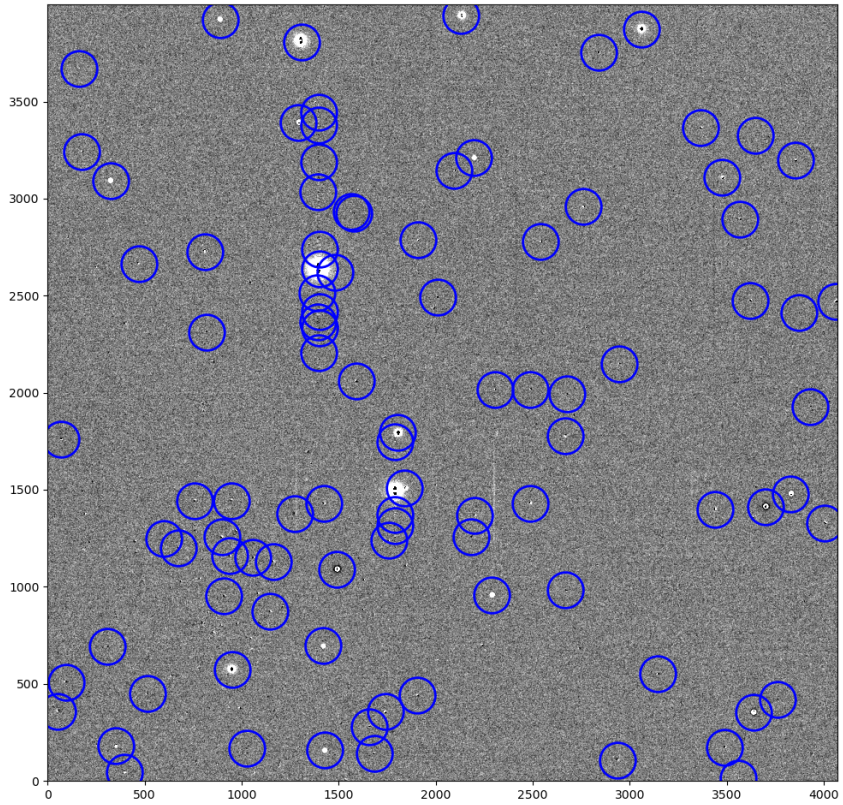

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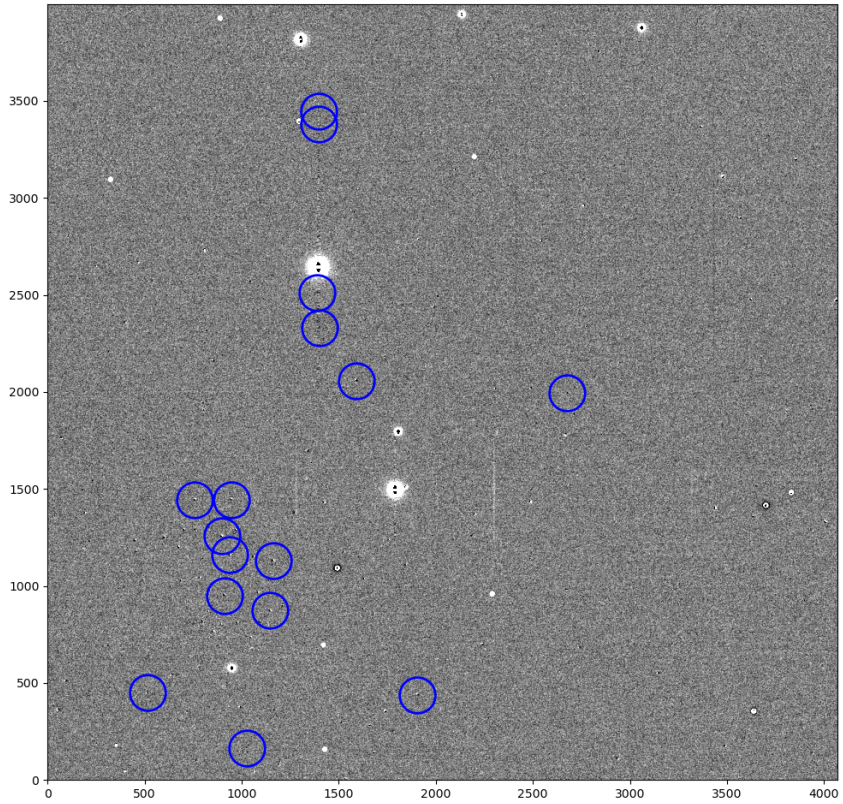
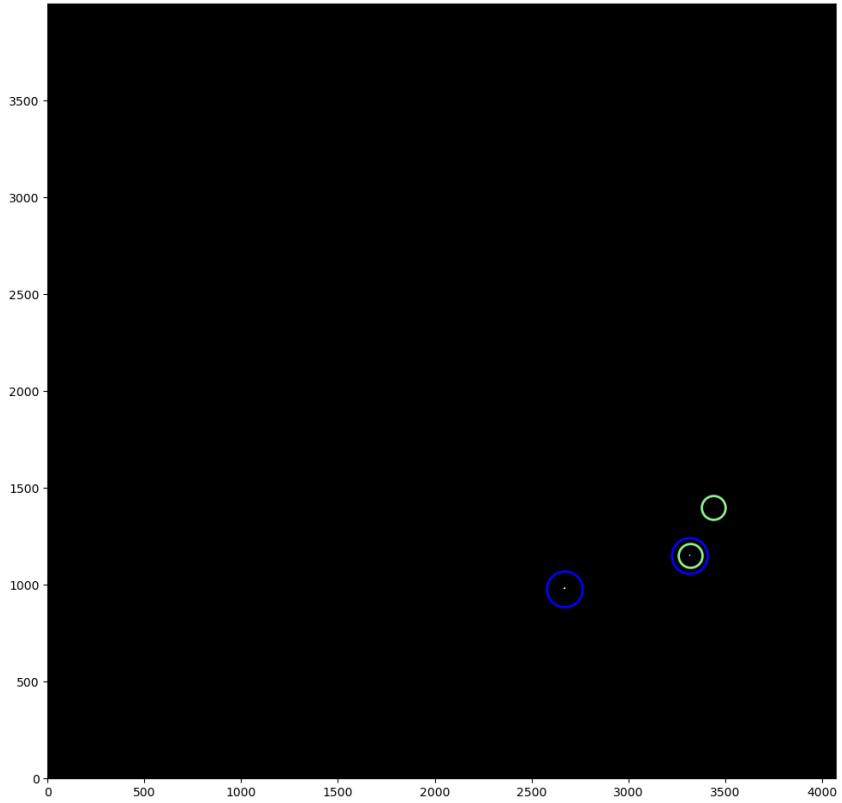
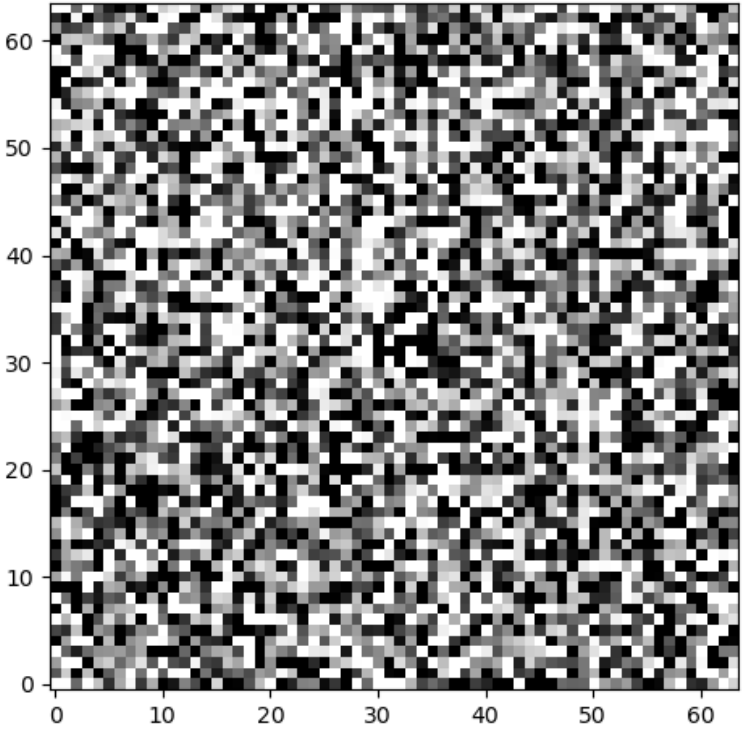
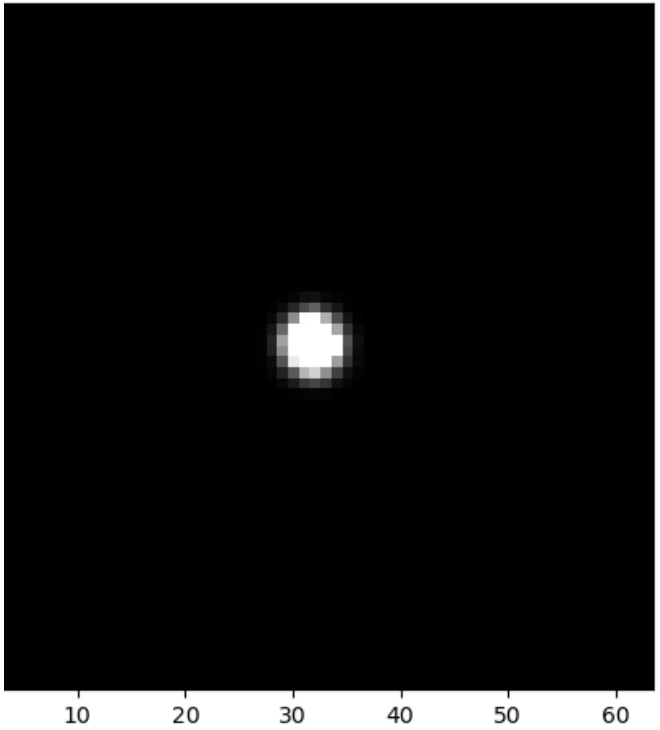


How does it look like with TransiNet?

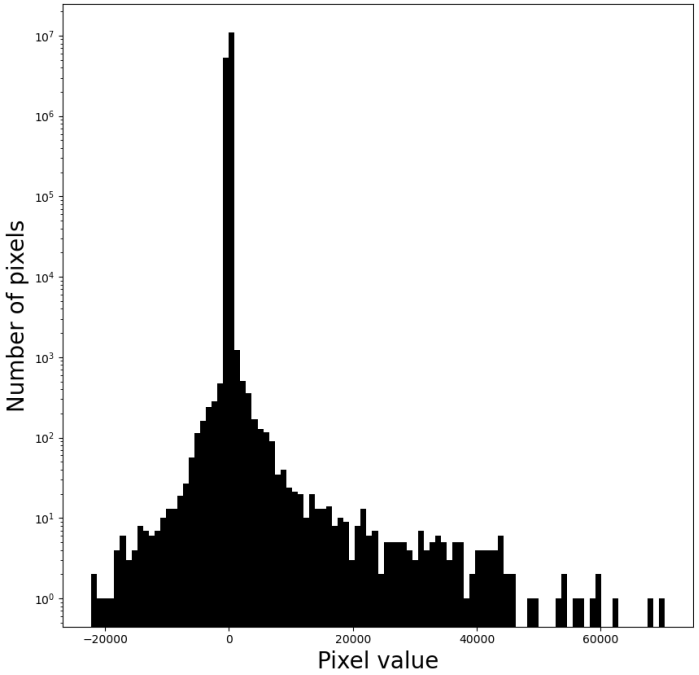


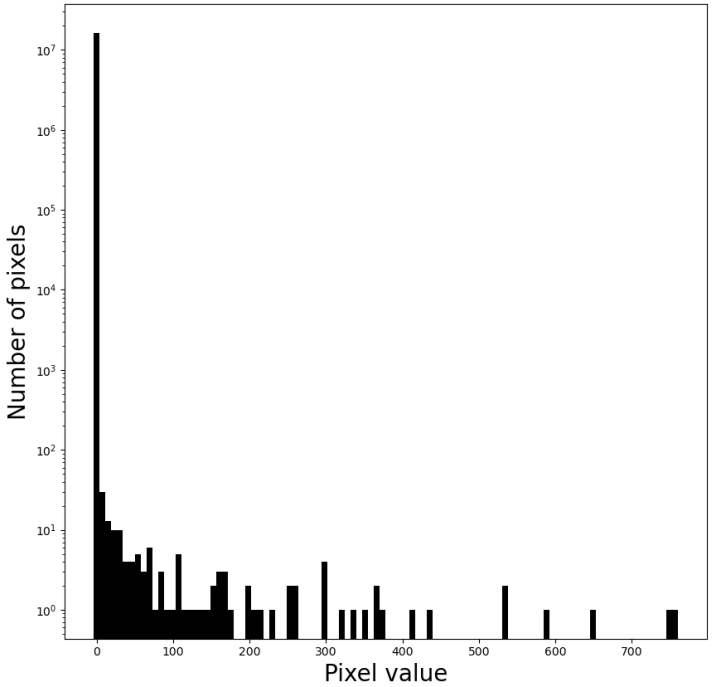
Let’s zoom in





What's happened?





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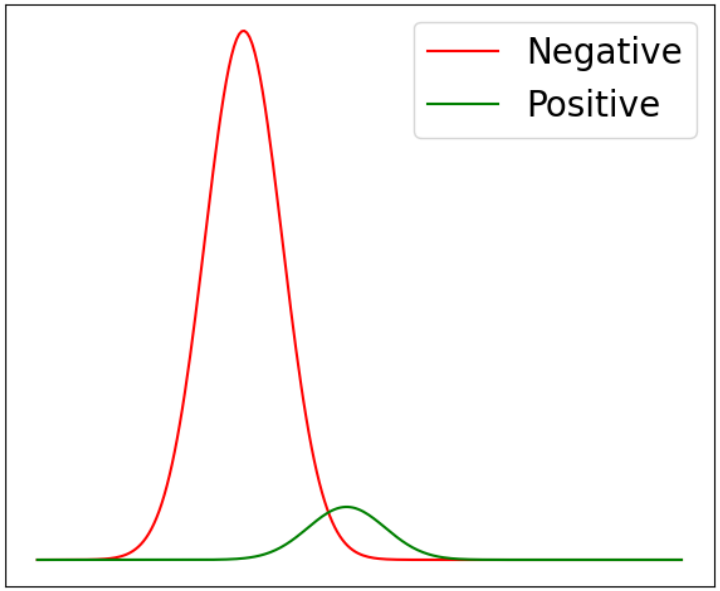
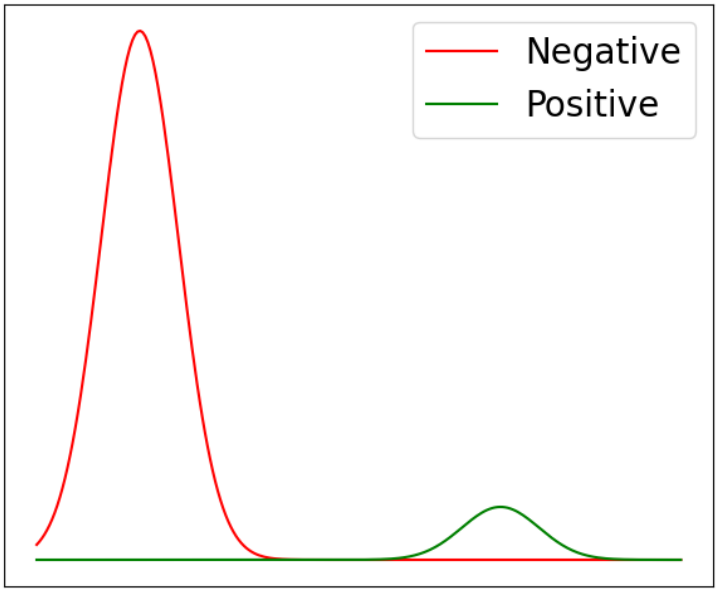
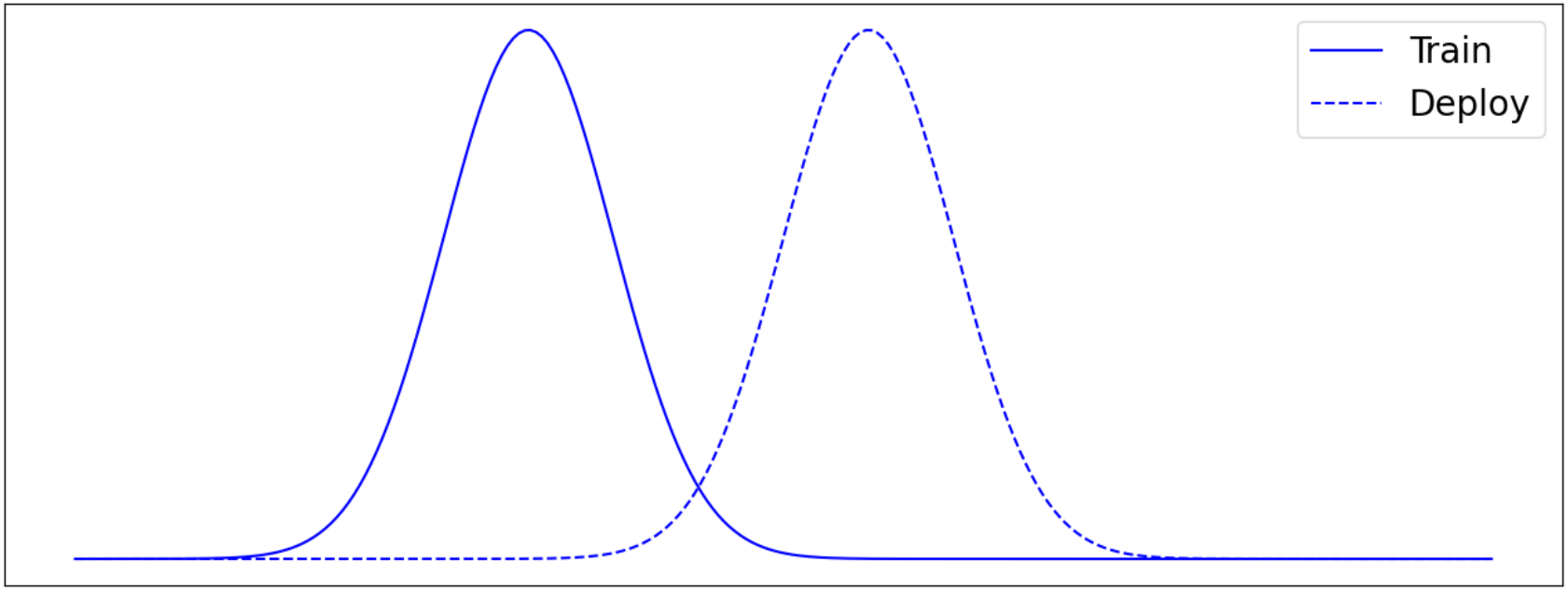




The issue of Covariate Shift



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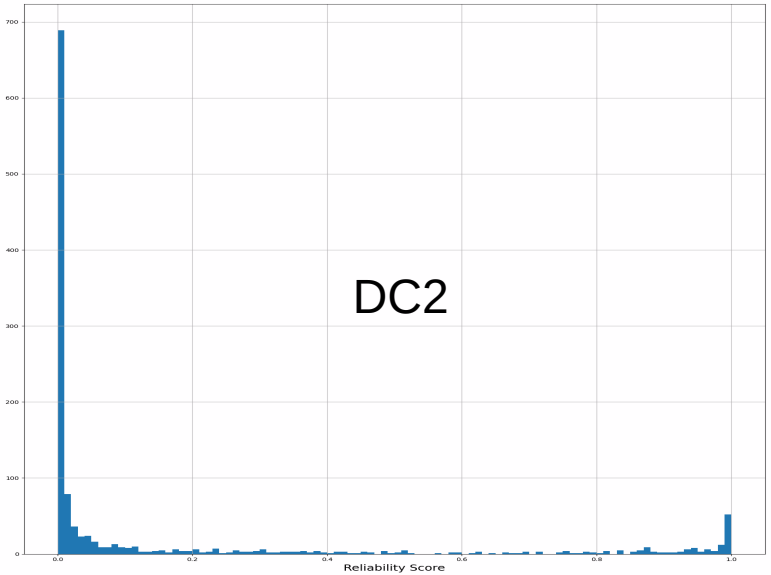
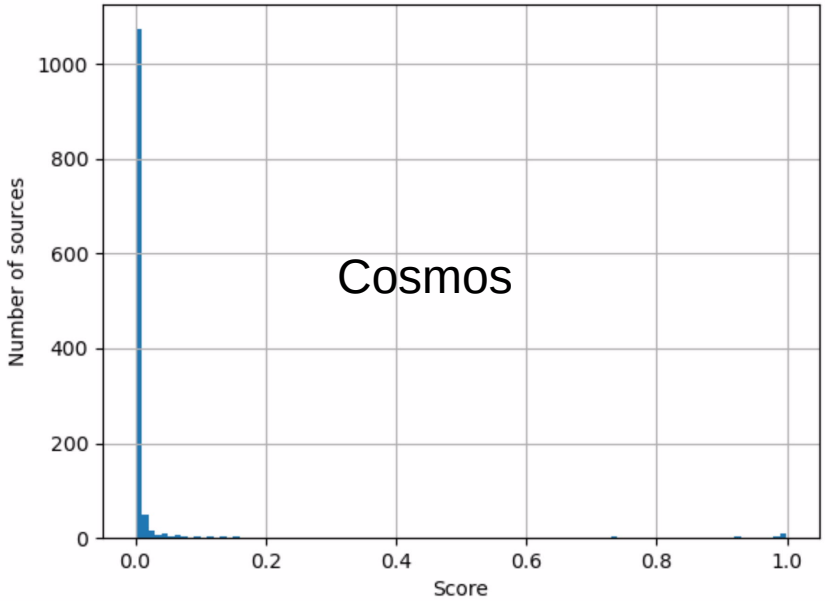
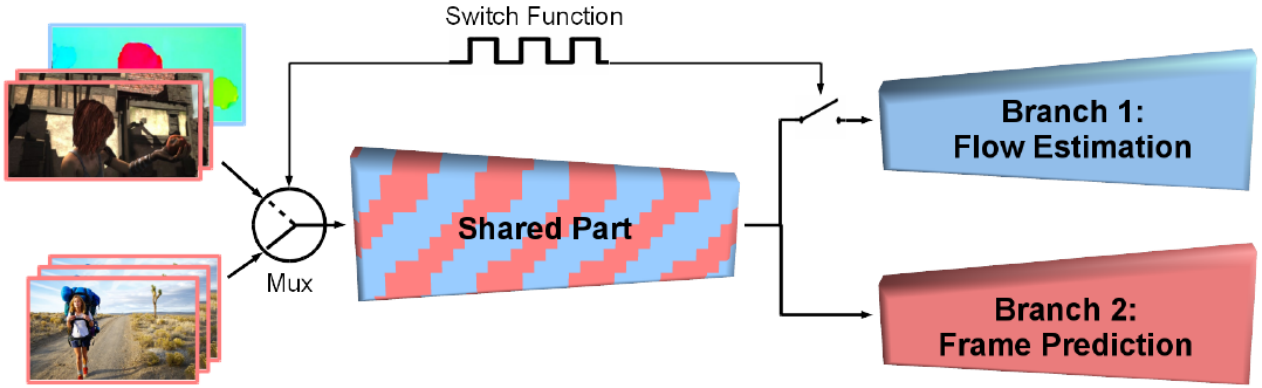


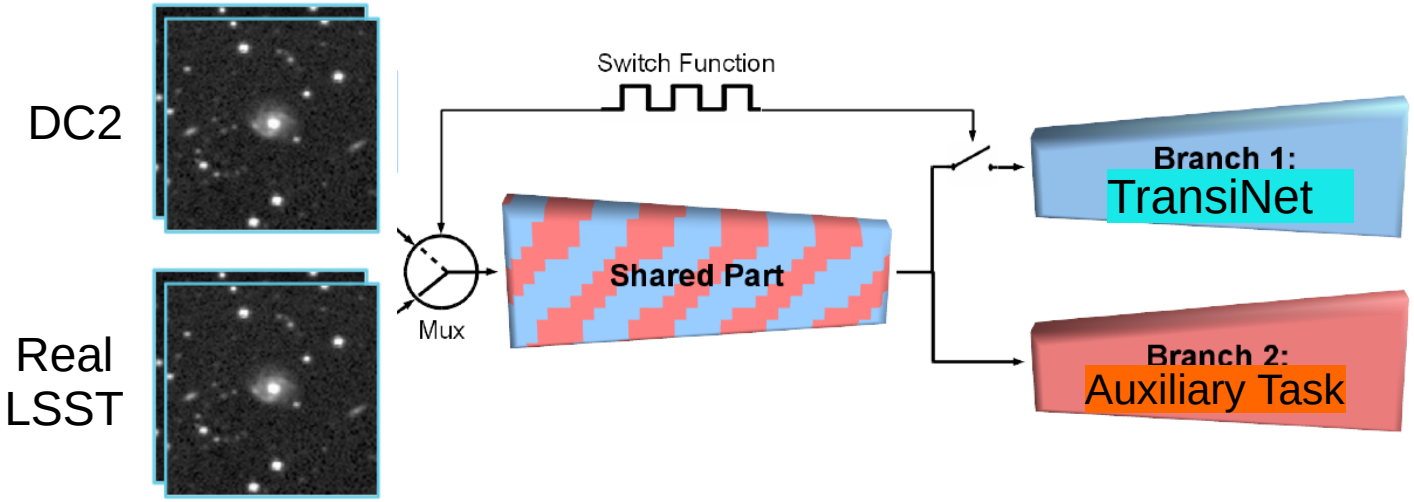


Self-supervised Domain Adaptation with TransiNet



NextFlow: Hybrid Learning of Optical Flow and Next Frame Prediction to Boost Optical Flow in the Wild
Nima Sedaghat et al.

Self-supervised Domain Adaptation with TransiNet



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That’s all folks!

Overal info about TransiNet: