



UNIDAD DE  
DATA SCIENCE  
UNIVERSIDAD DE CONCEPCIÓN

# Domain Adaptation

Manuel Pérez Carrasco  
Unidad de Data Science, Facultad de Ingeniería  
Universidad de Concepción

Fecha: 06/01/2023



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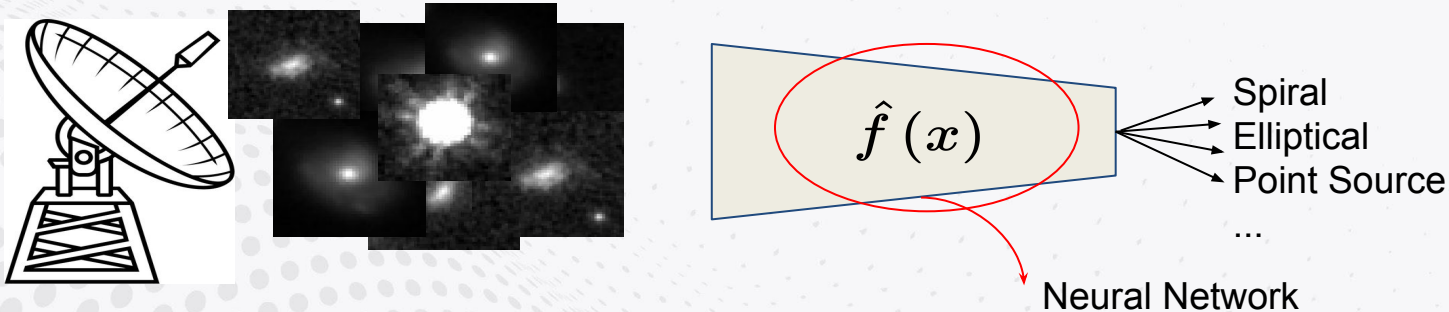
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# Machine Learning

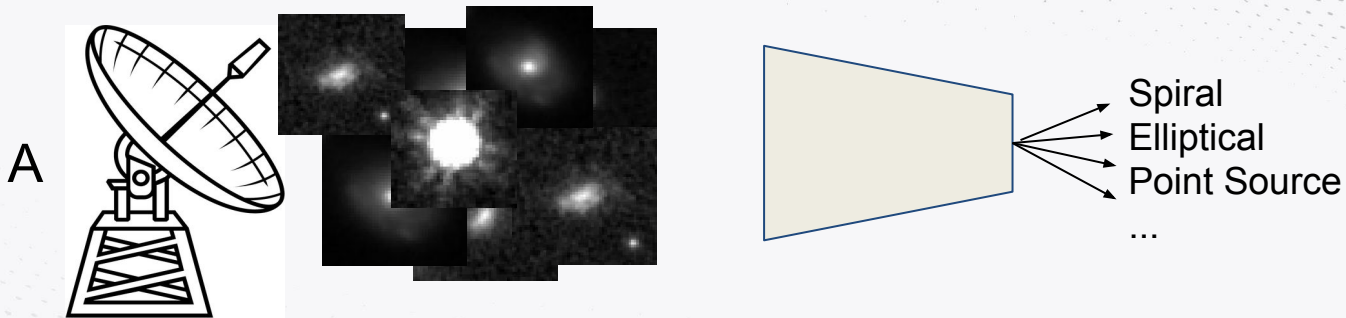
For an input  $x$  and some output  $y$ , it is possible to find a mapping from the input space to the output space using a function:

$$y = f(x) + \epsilon$$

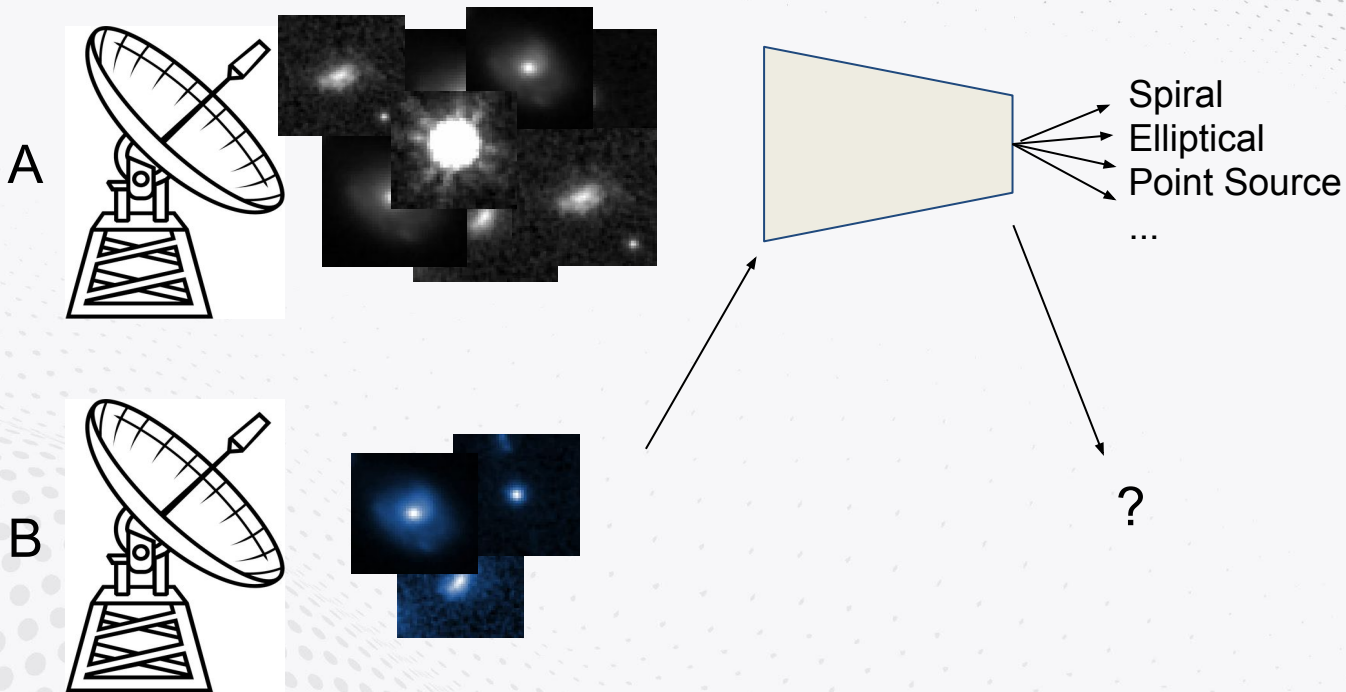
In machine learning or statistical learning we try to find an approximated function  $\hat{f}(x)$  using data. Neural networks are a machine learning models.



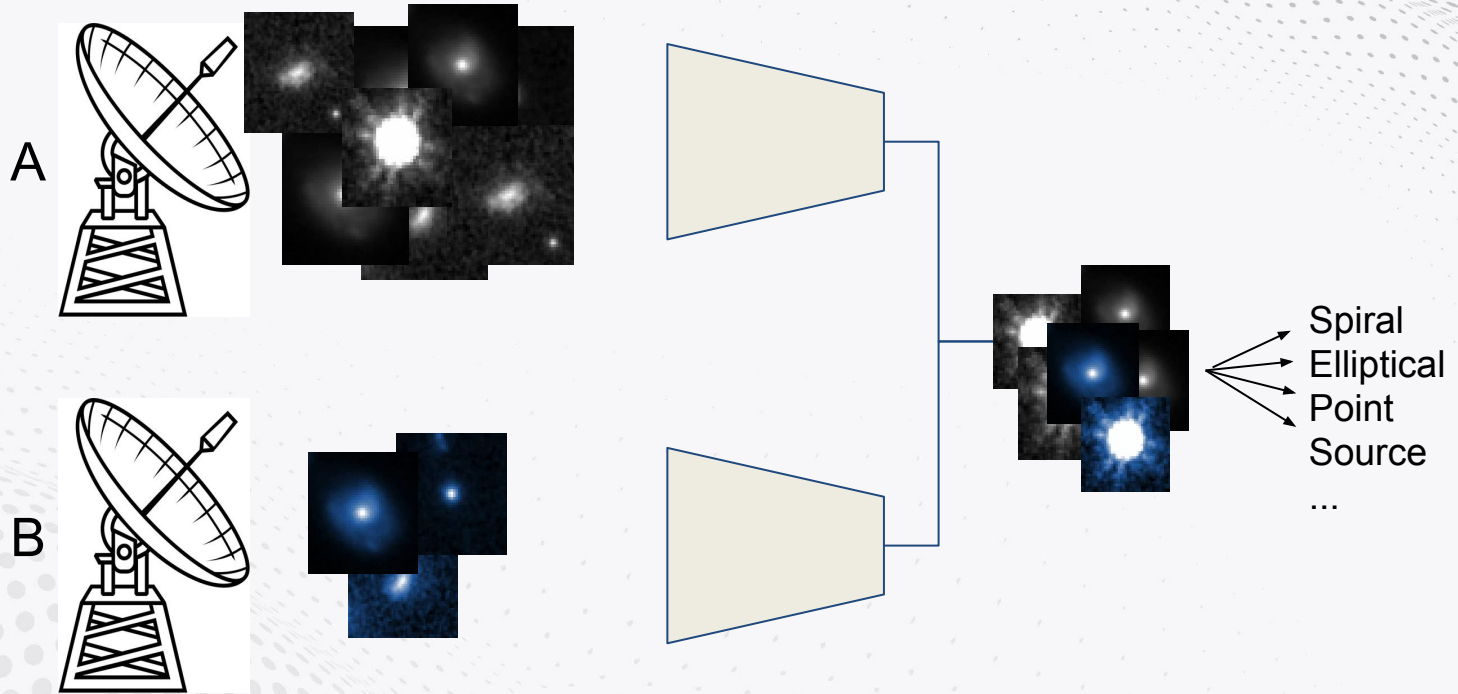
# Domain shift



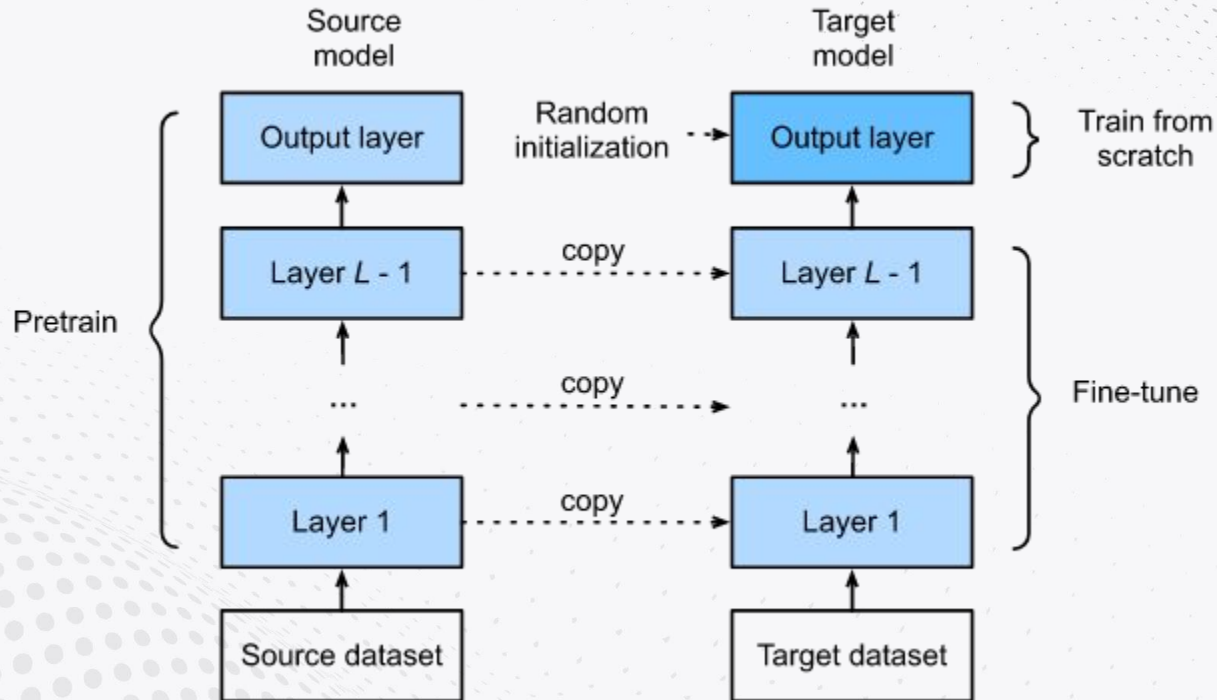
# Domain shift



# Domain Adaptation

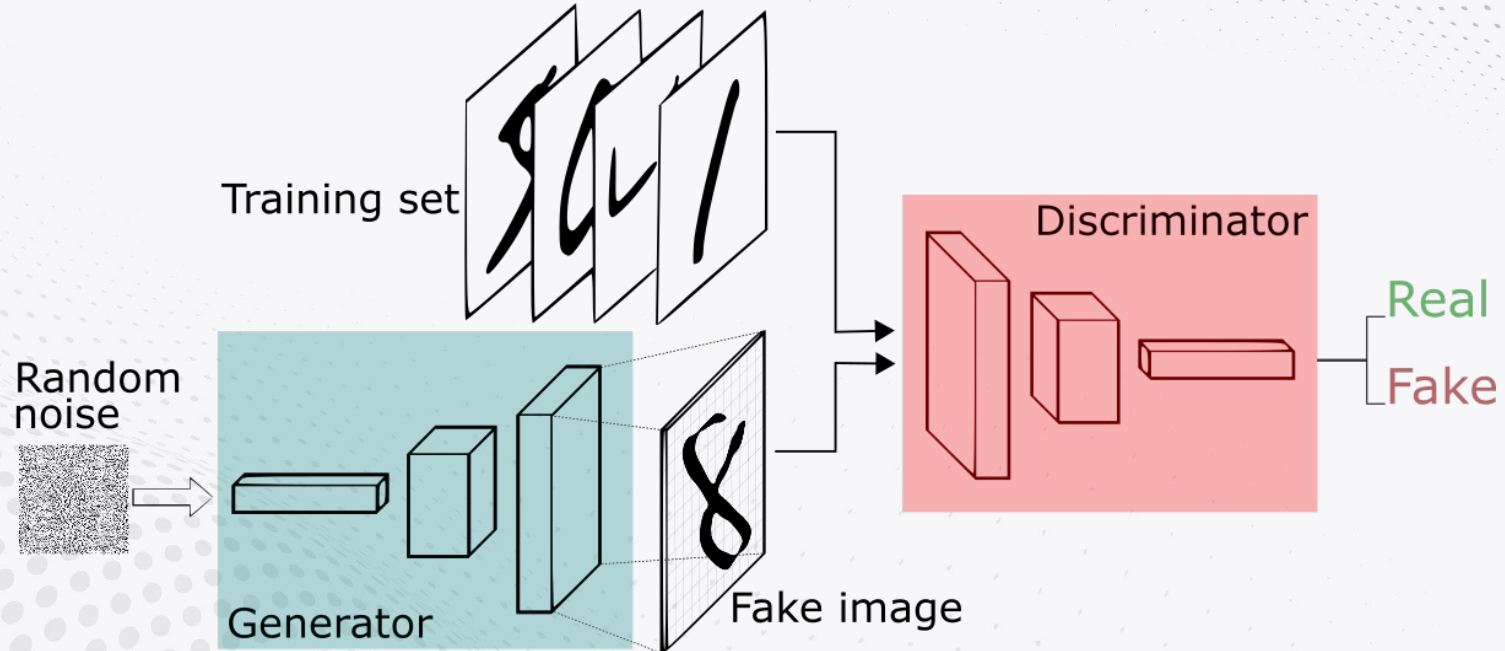


# Naive Supervised DA: Fine-Tuning

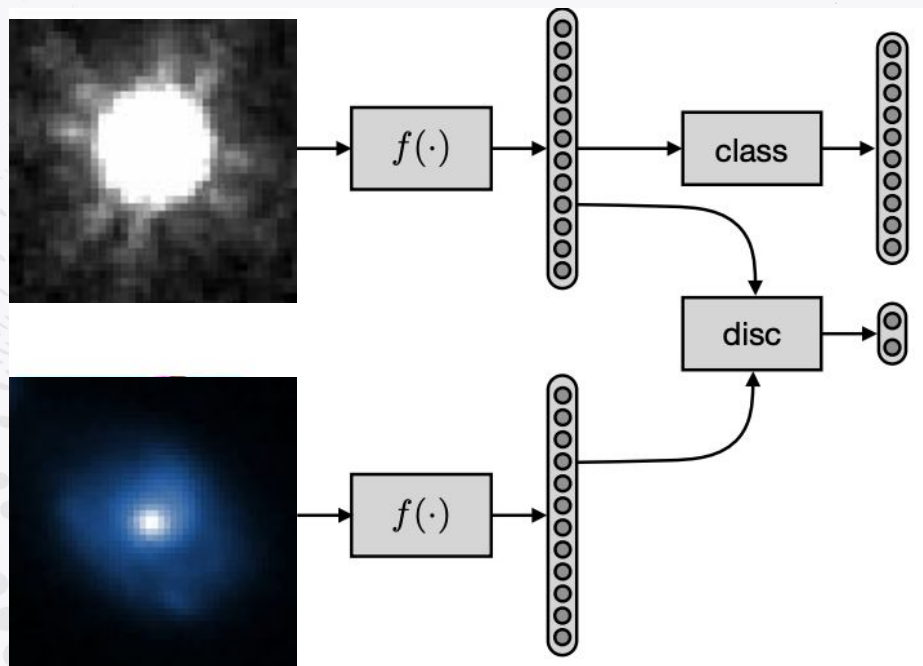




# Adversarial Learning

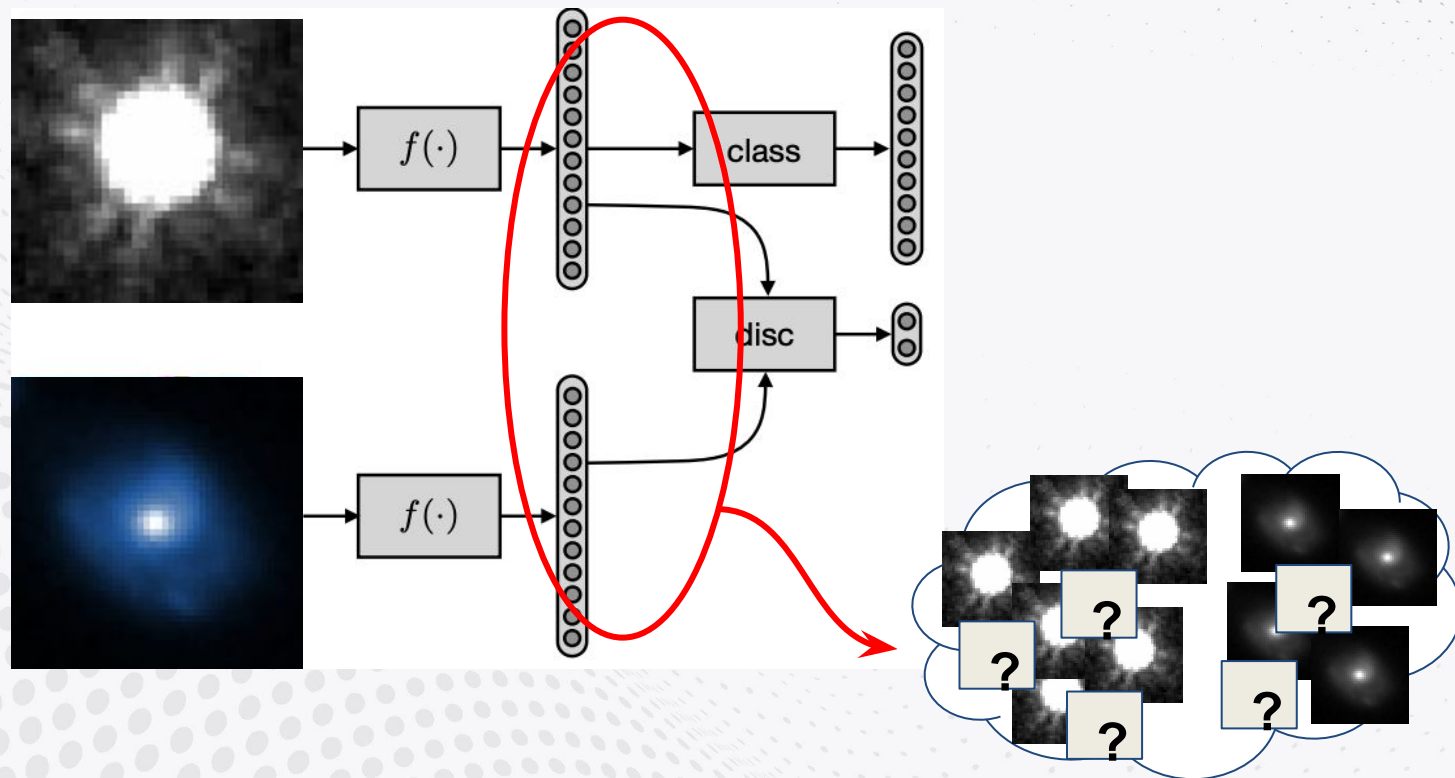


# Unsupervised Domain Adaptation

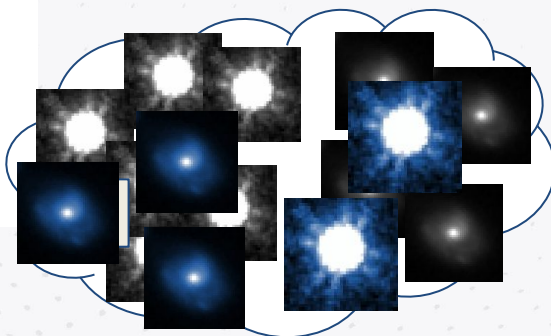
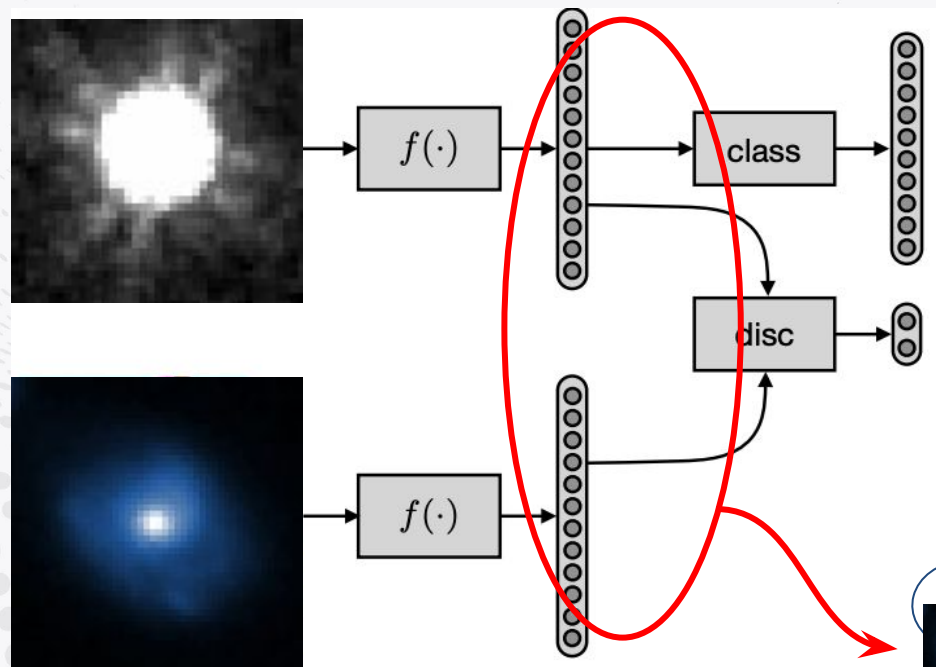




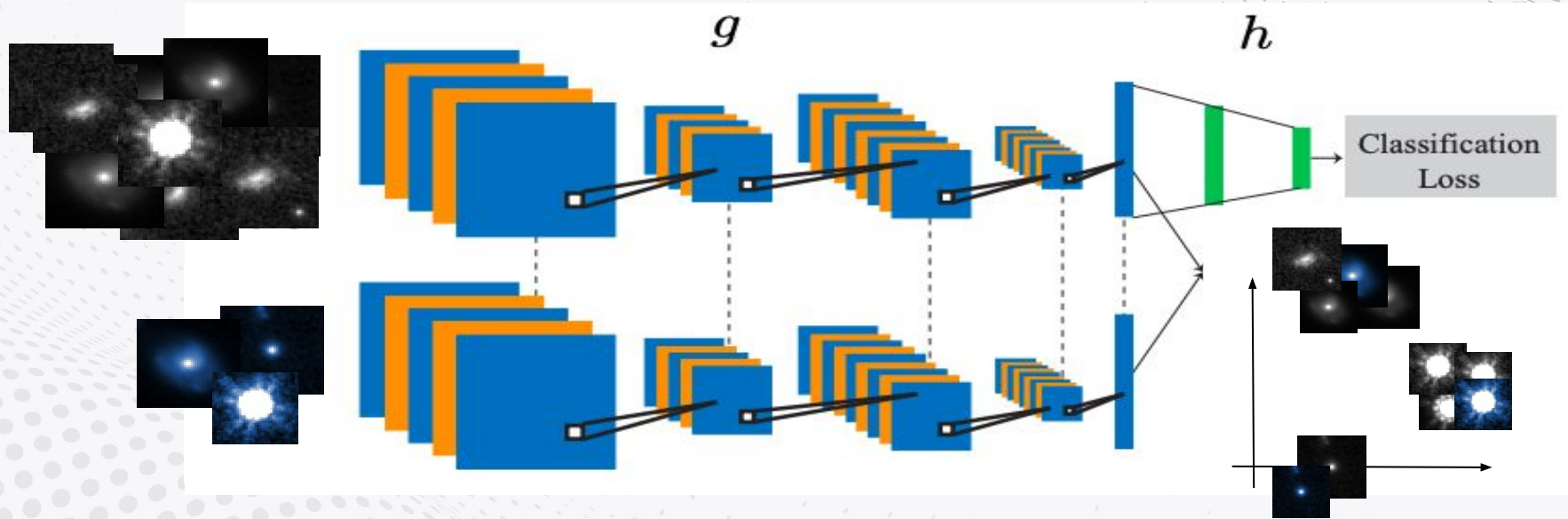
# Unsupervised Domain Adaptation



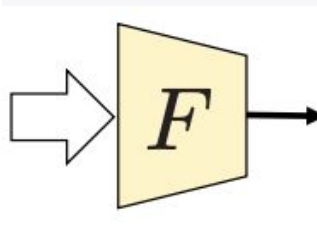
# Unsupervised Domain Adaptation



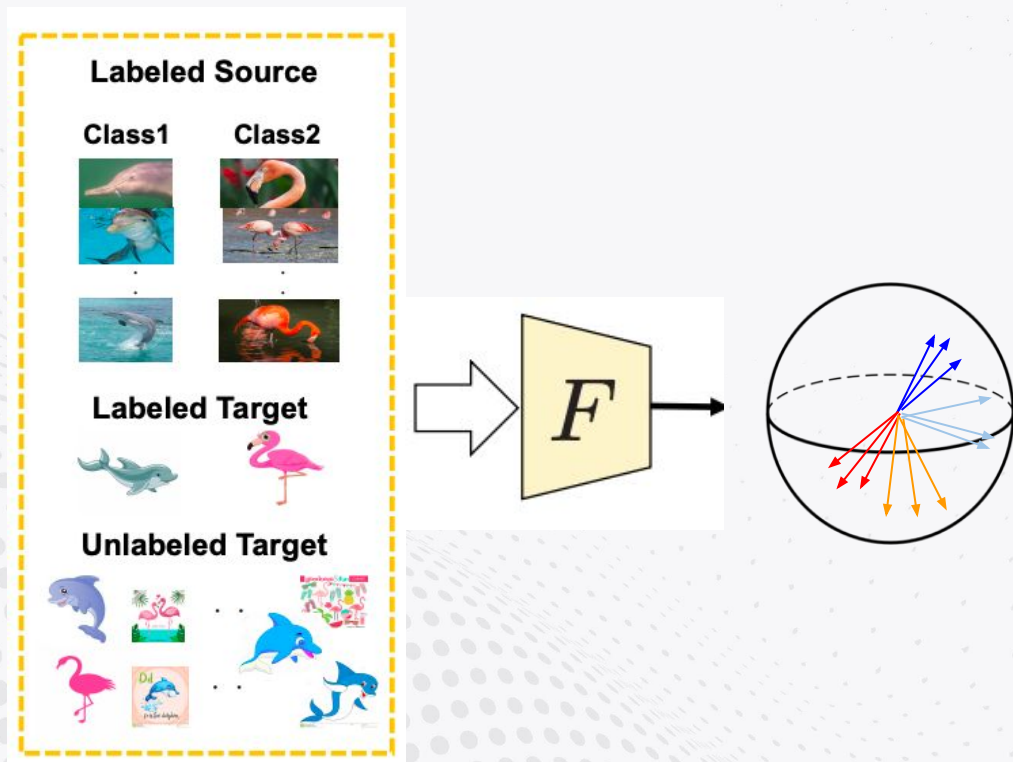
# Supervised Domain Adaptation



# Semi-supervised Domain Adaptation

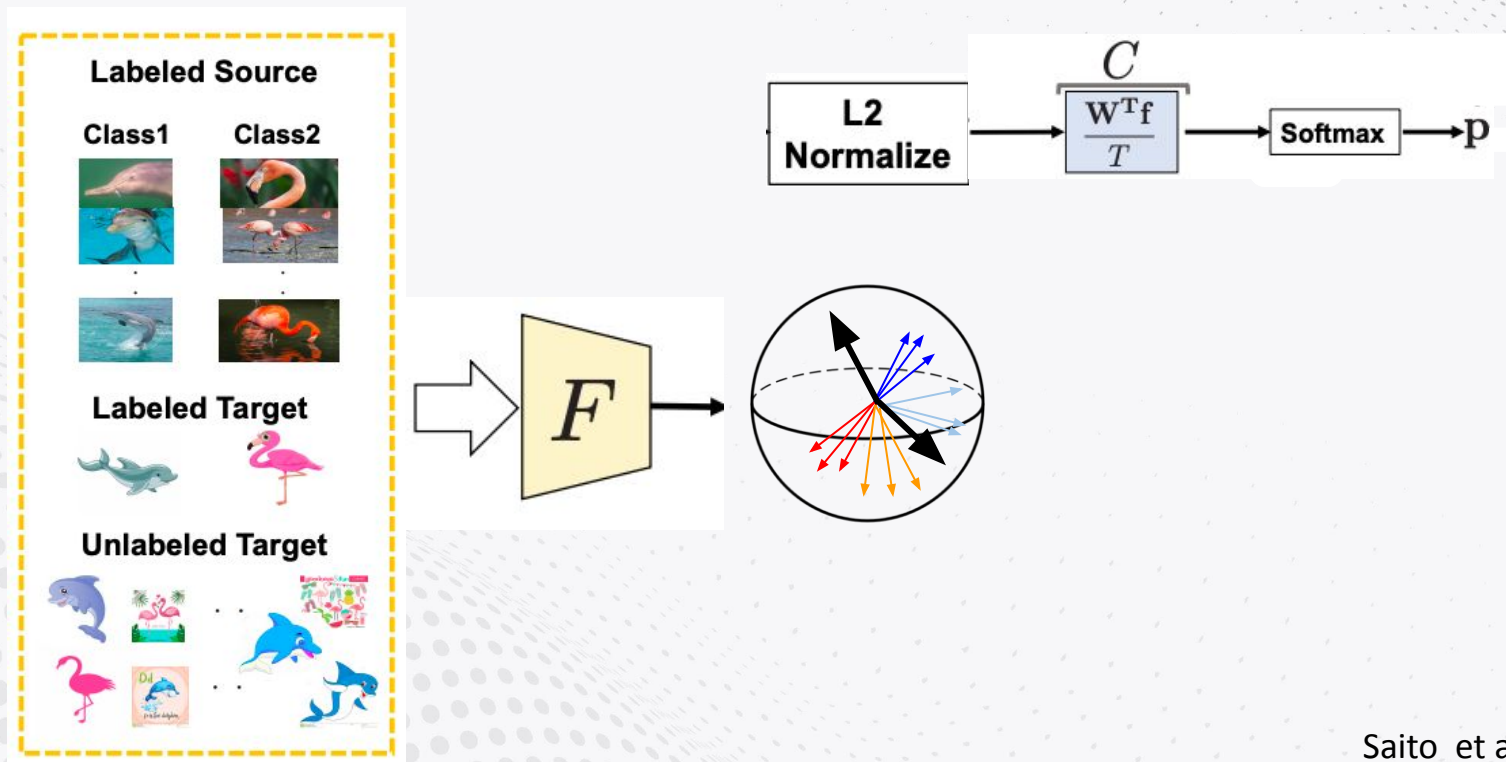


# Semi-supervised Domain Adaptation



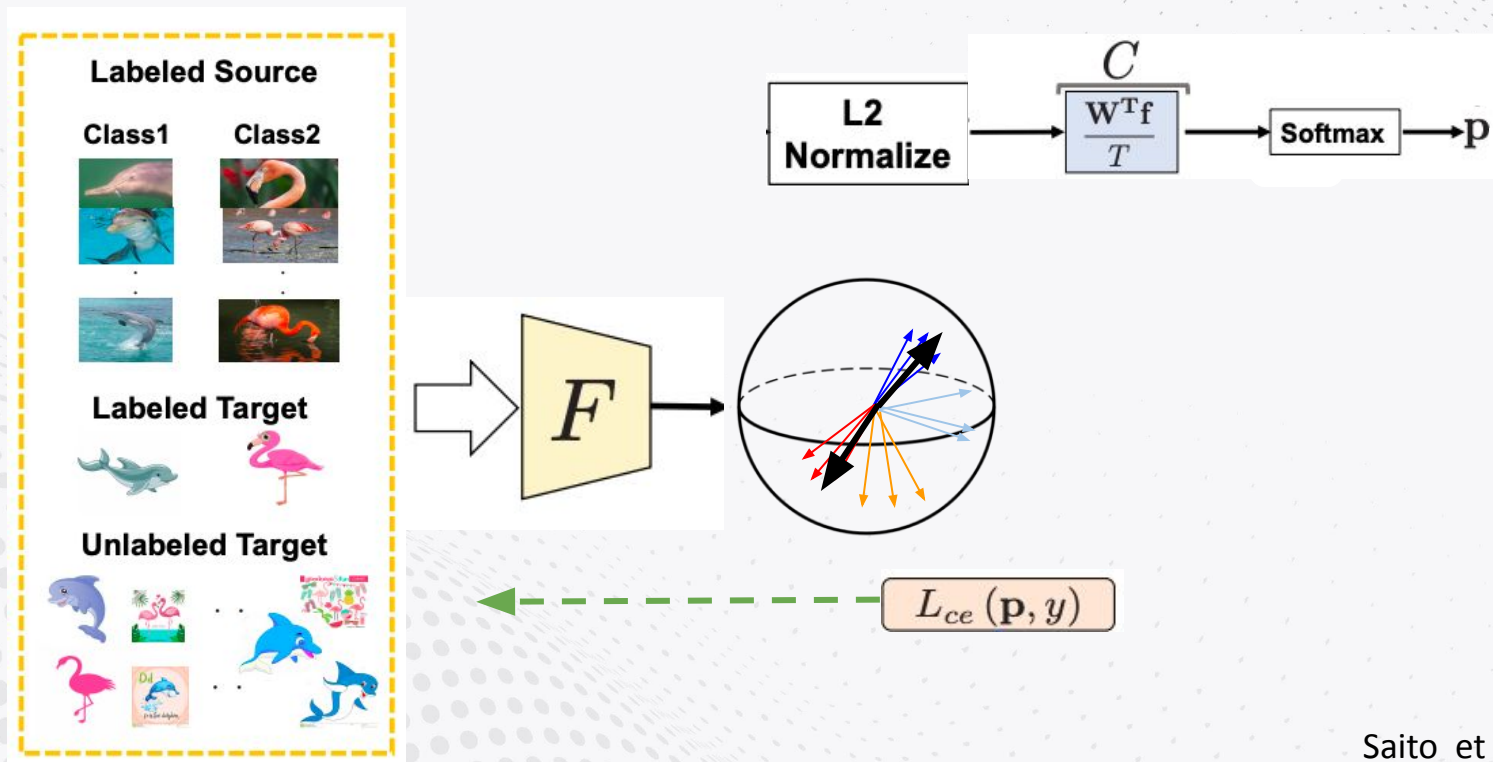


# Semi-supervised Domain Adaptation

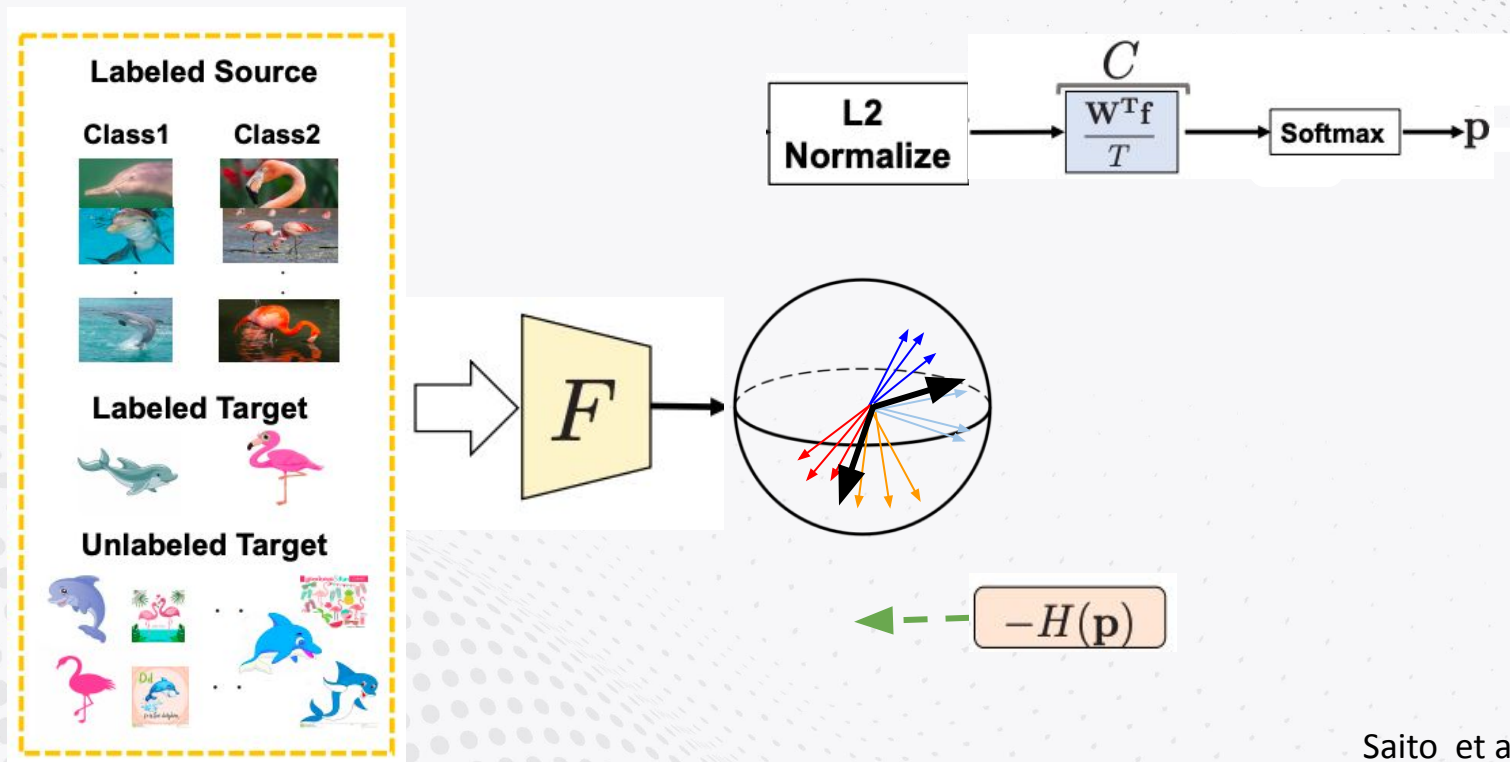




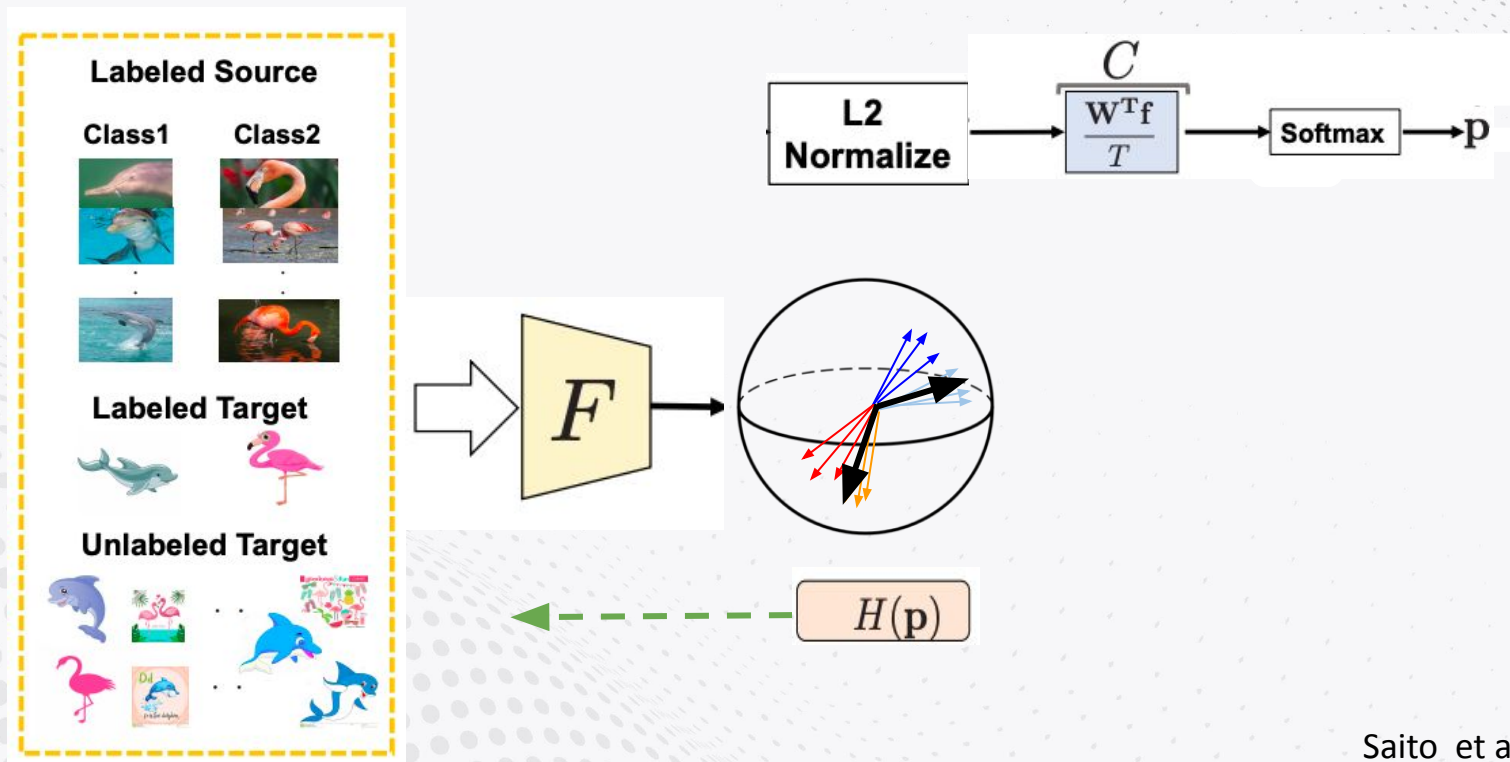
# Semi-supervised Domain Adaptation



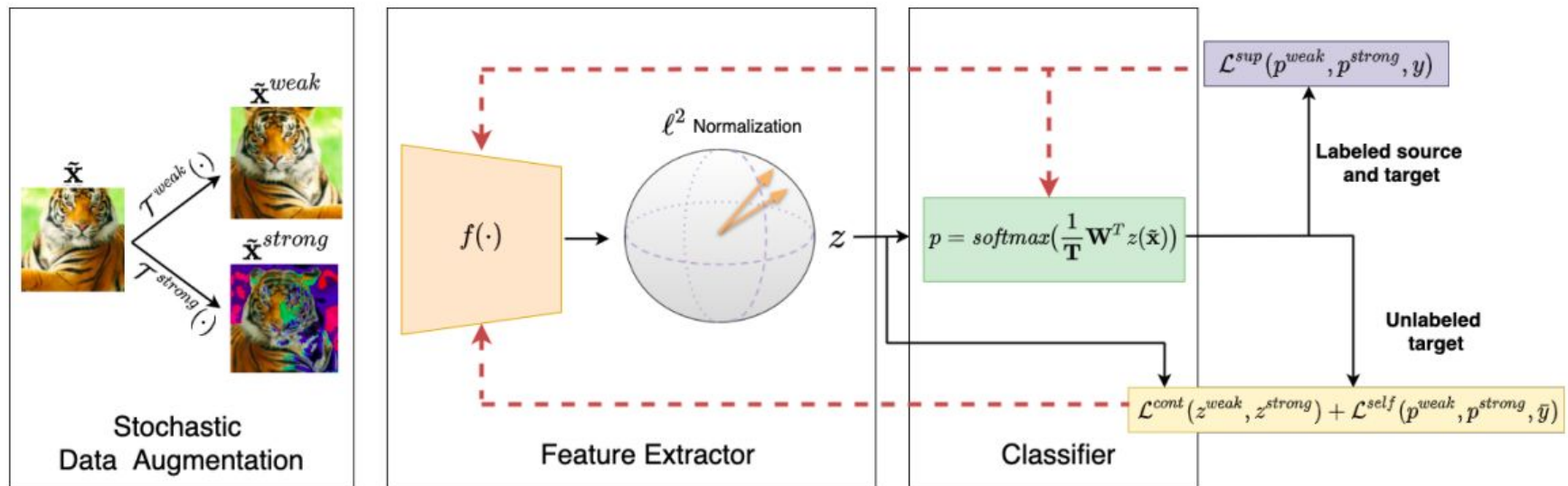
# Semi-supervised Domain Adaptation



# Semi-supervised Domain Adaptation



# Other Idea



The logo features the letters 'UDS' in a bold, sans-serif font. The 'U' is black, while the 'D' and 'S' are a vibrant magenta. This text is centered within a circular frame composed of two concentric rings of small, multi-colored dots (red, green, and blue). The background of the entire slide is a white-to-grey gradient with a pattern of dots that become larger and more densely packed towards the right side.

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