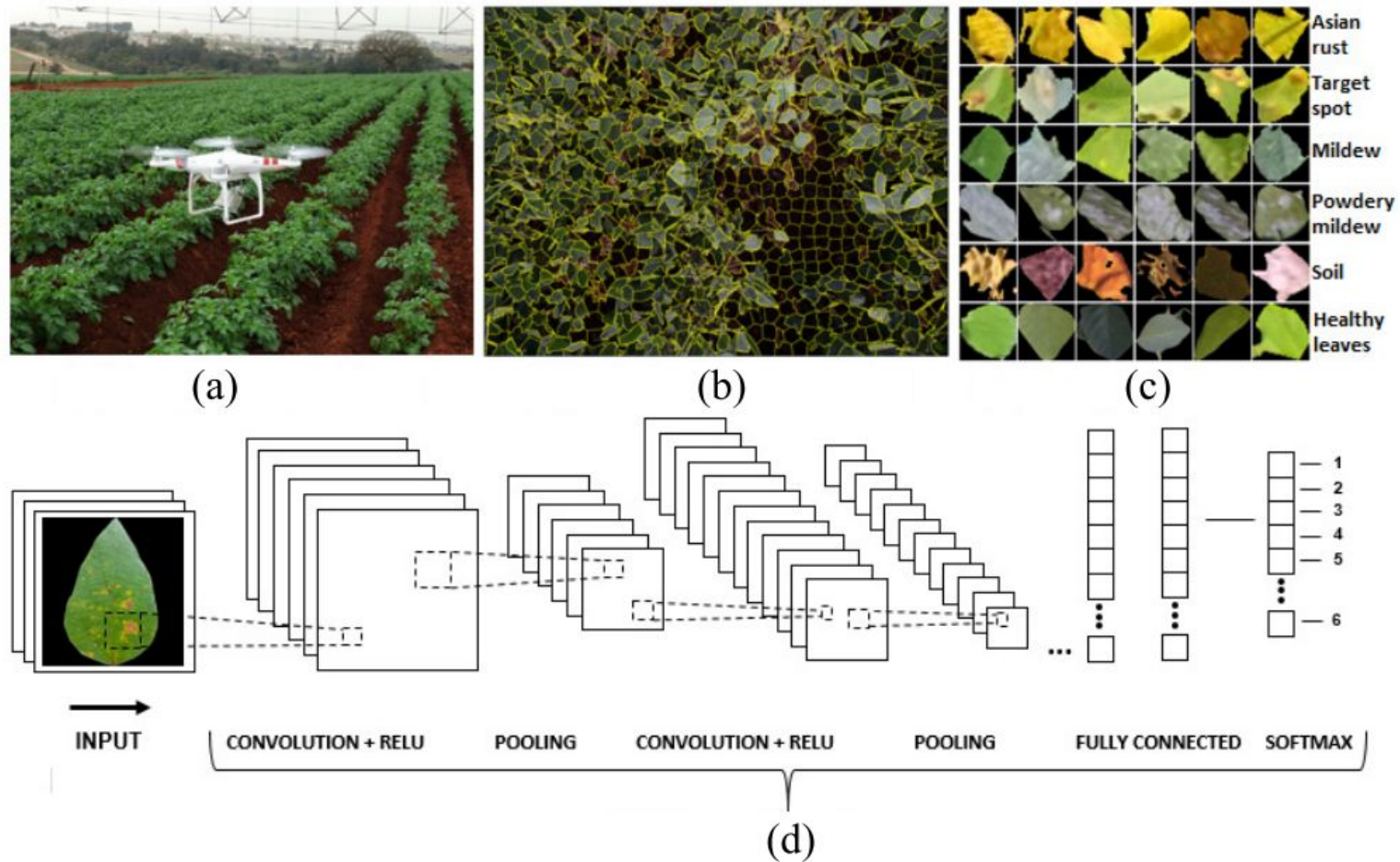


Prof. Hemerson Pistori

Além das Redes Convolucionais Profundas:
Redes Profundas de Superpixels,
Máquinas de Vetores de Suporte Convolucionais e
Redes Morfológicas Profundas



Redes Profundas de Superpixels (Deep Superpixels)



Redes Profundas de Superpixels (Deep Superpixels)

Superpixel Sampling Networks



Varun Jampani¹, Deqing Sun¹, Ming-Yu Liu¹,
Ming-Hsuan Yang^{1,2}, Jan Kautz¹

¹NVIDIA

²UC Merced

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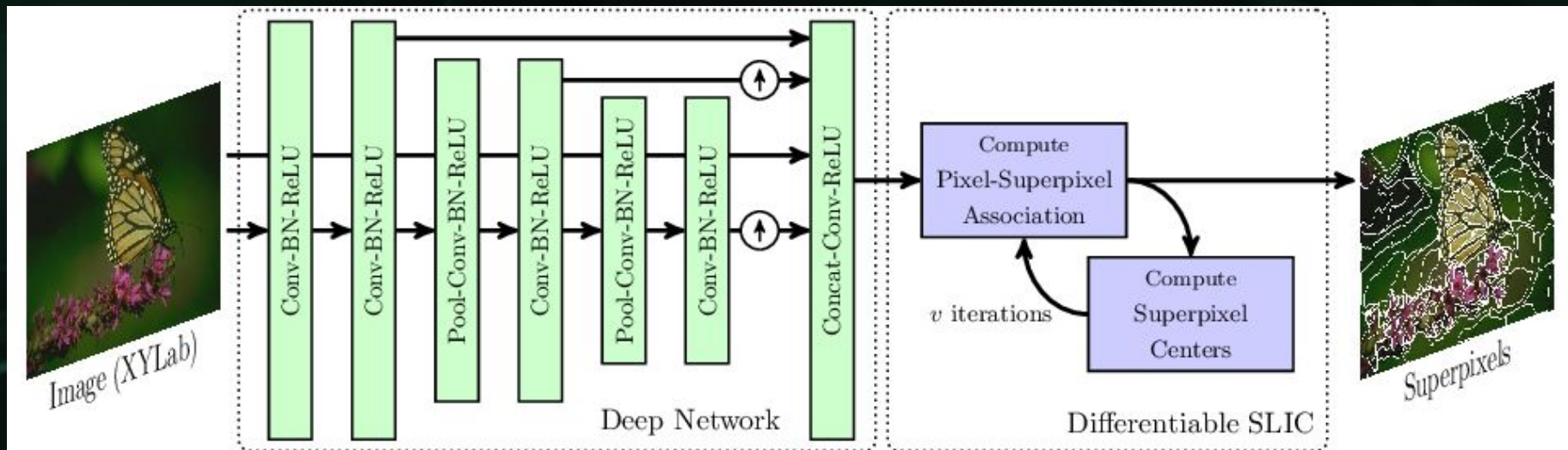


Fig. 3: Computation flow of SSN. Our network is composed of a series of convolution

Redes Profundas de Superpixels (Deep Superpixels)

Superpixel Sampling Networks



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- Ajustar pesos durante o SLIC

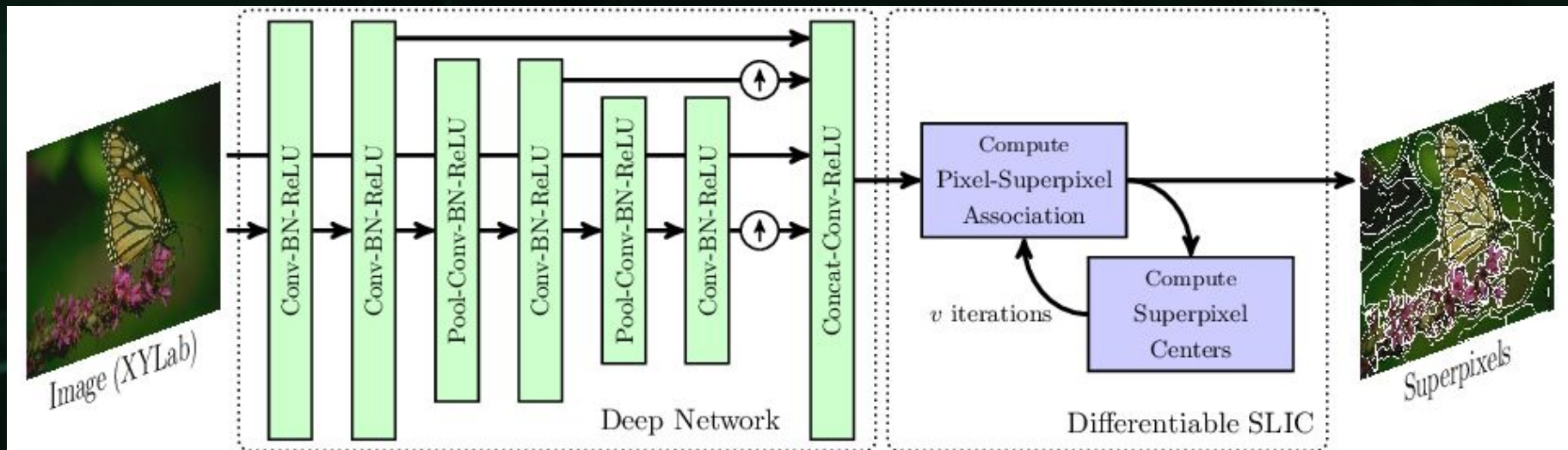


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- Camadas paralelas (FRCNN, Advers.)

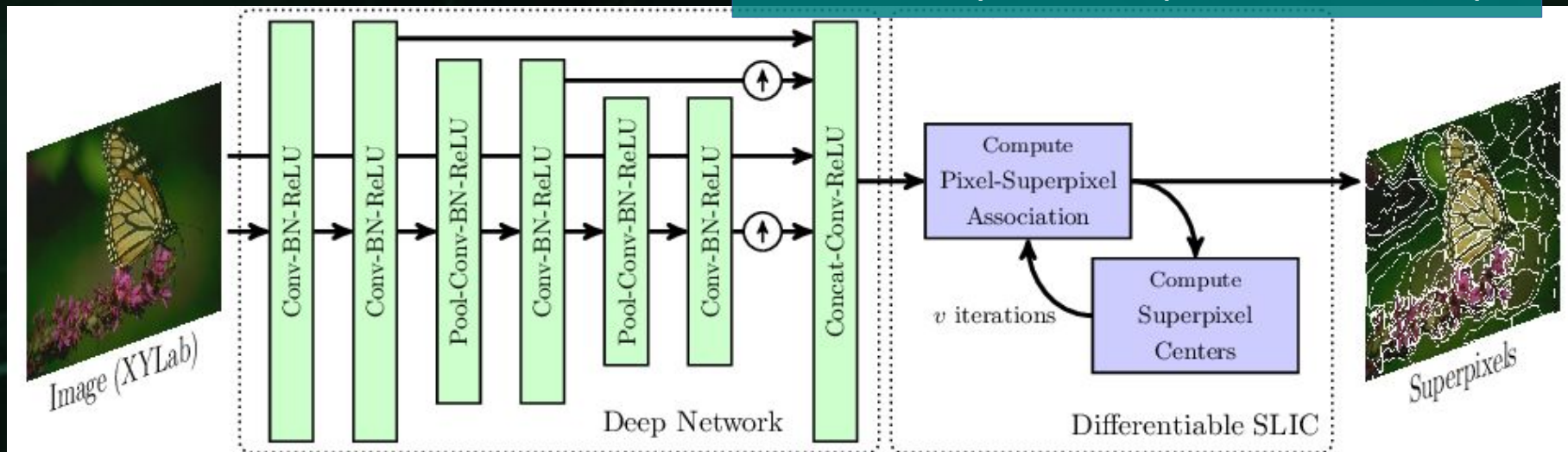


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Superpixel Sampling Networks



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- Ajustar pesos durante o SLIC
- Camadas paralelas (FRCNN, Advers.)
- Trocar k-means por EM

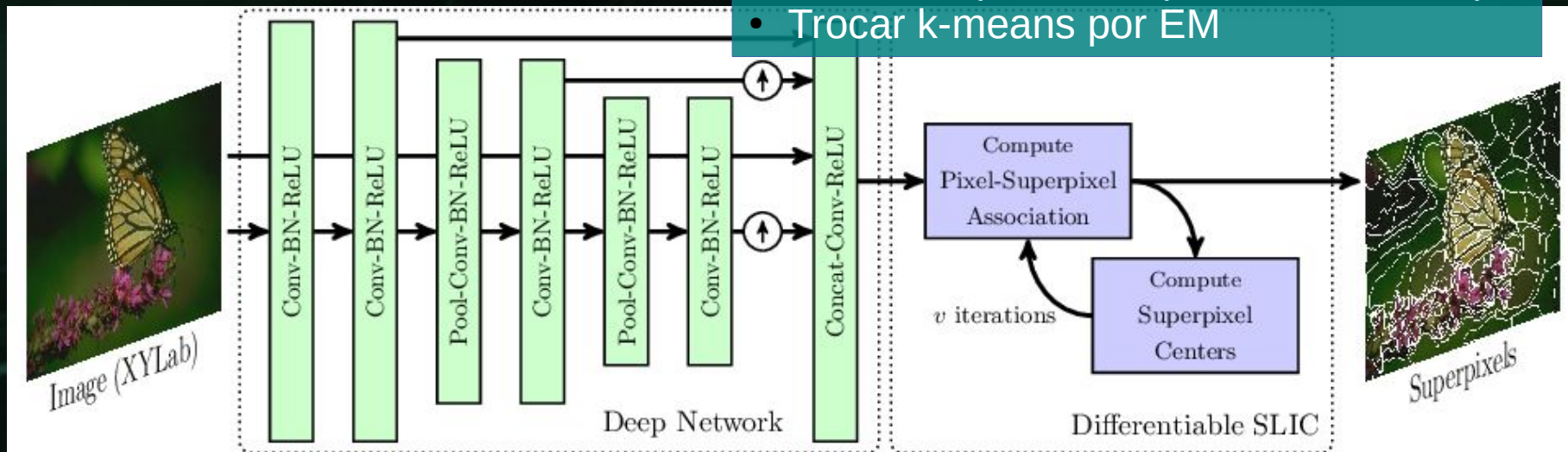
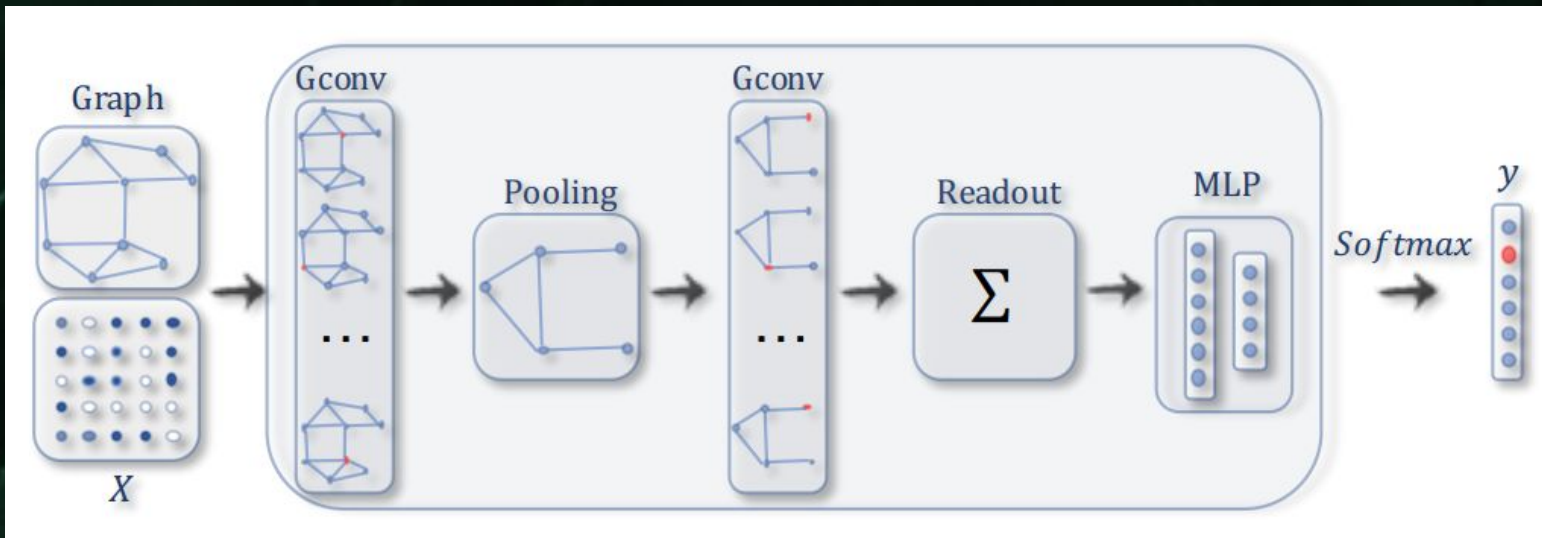


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A Comprehensive Survey on Graph Neural Networks

Zonghan Wu, Shirui Pan, *Member, IEEE*, Fengwen Chen, Guodong Long,
Chengqi Zhang, *Senior Member, IEEE*, Philip S. Yu, *Fellow, IEEE*

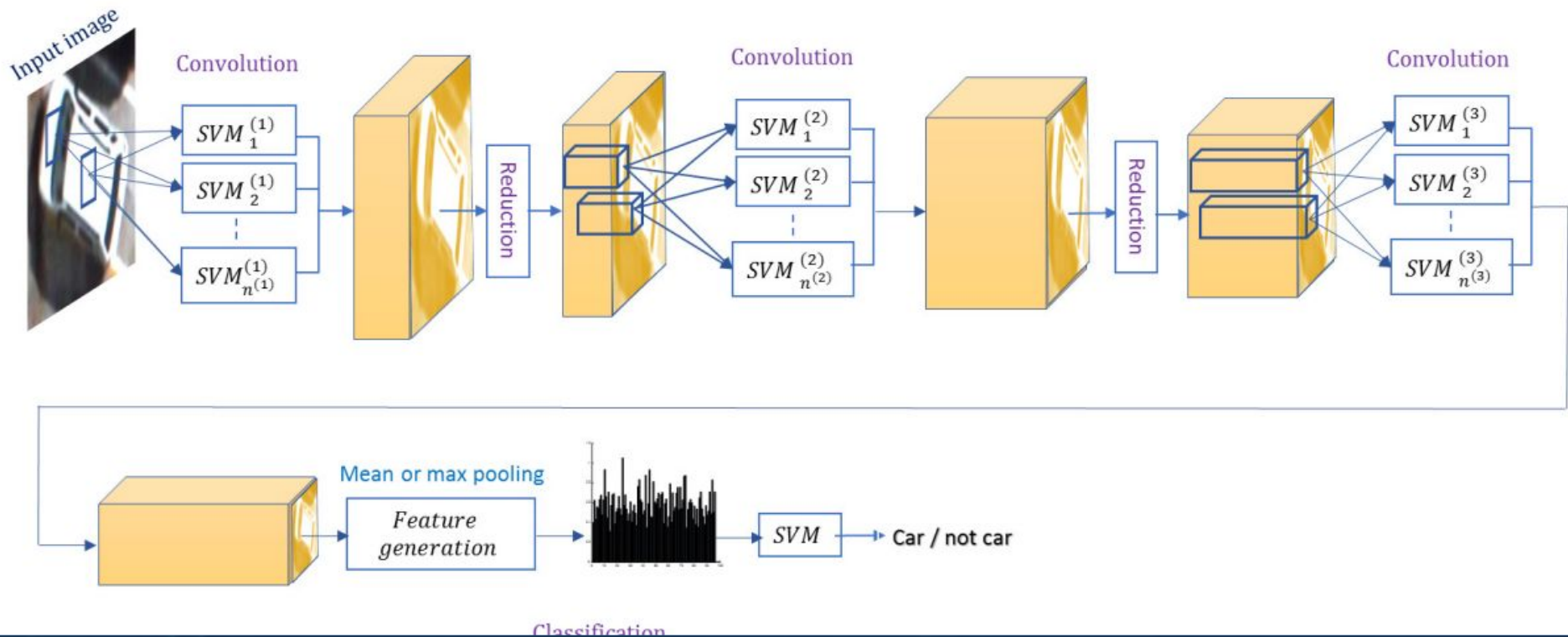


Convolutional SVM Networks for Object Detection in UAV Imagery

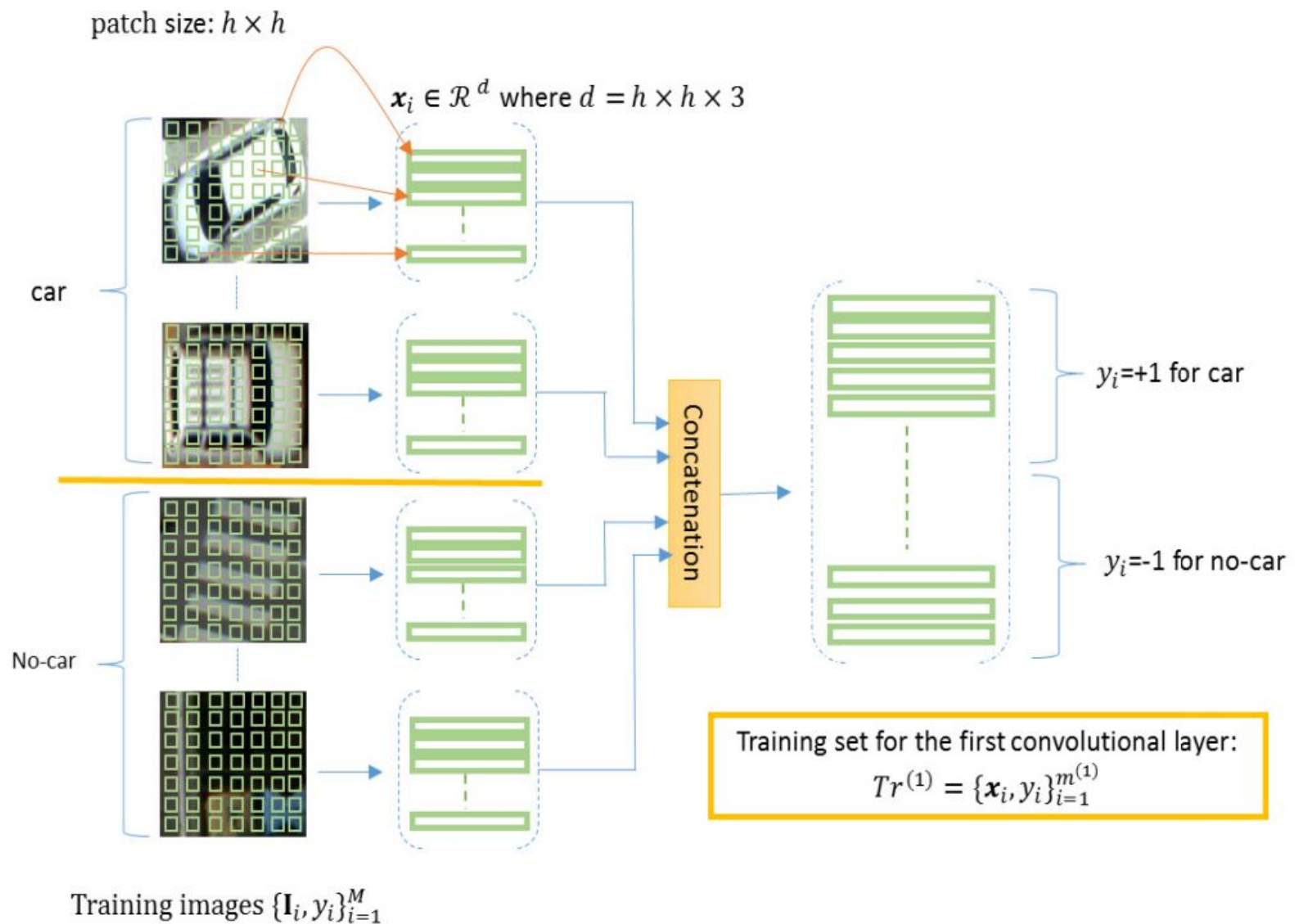
Yakoub Bazi^{ID}, *Senior Member, IEEE*, and Farid Melgani^{ID}, *Fellow, IEEE*

Convolutional SVM Networks for Object Detection in UAV Imagery

Yakoub Bazi^{ID}, *Senior Member, IEEE*, and Farid Melgani^{ID}, *Fellow, IEEE*

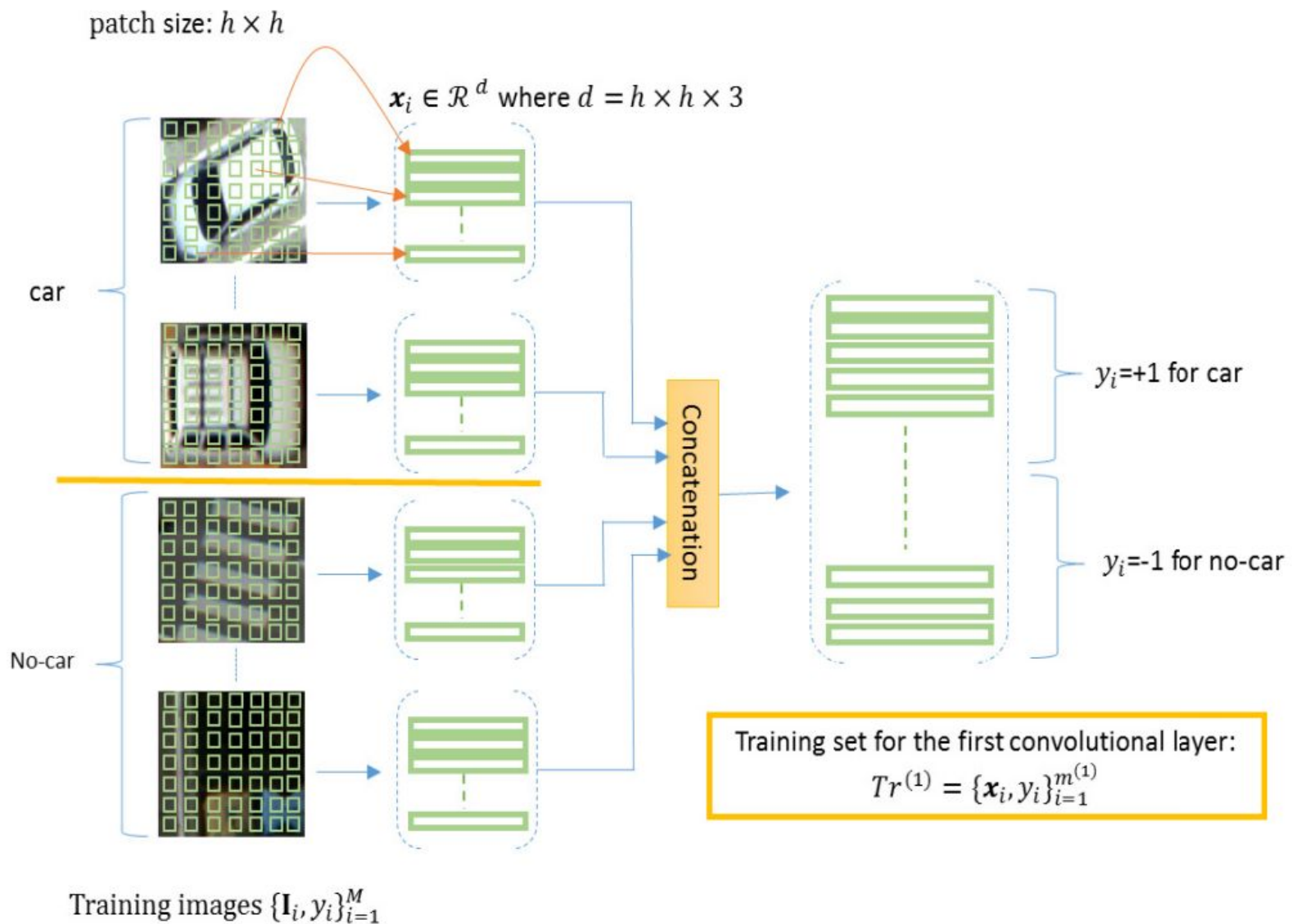


Máquinas de Vetores de Suporte Convolucionais (CSVM)



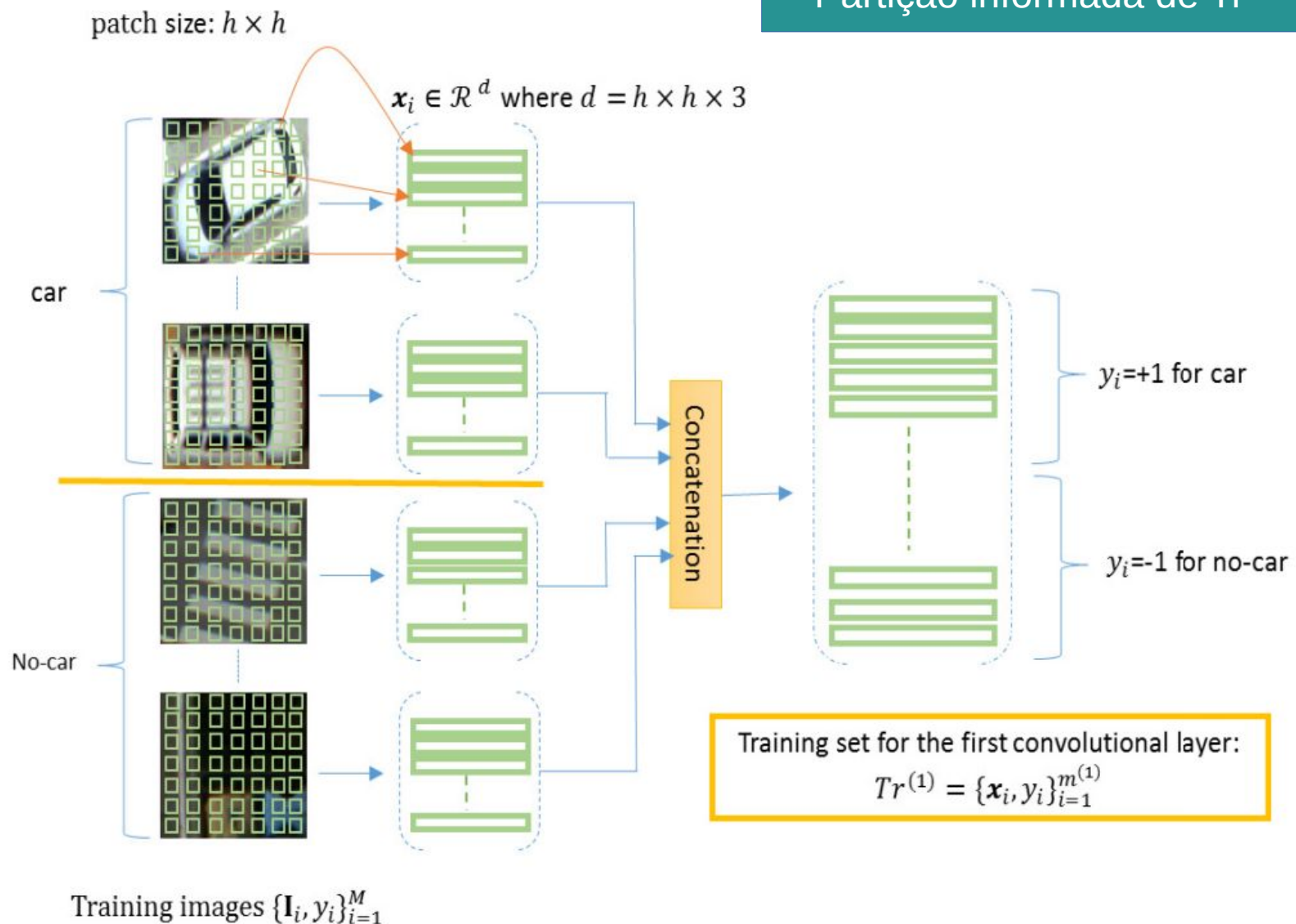
Máquinas de Vetores de Suporte Convolucionais (CSVM)

- Truque do núcleo X ReLU



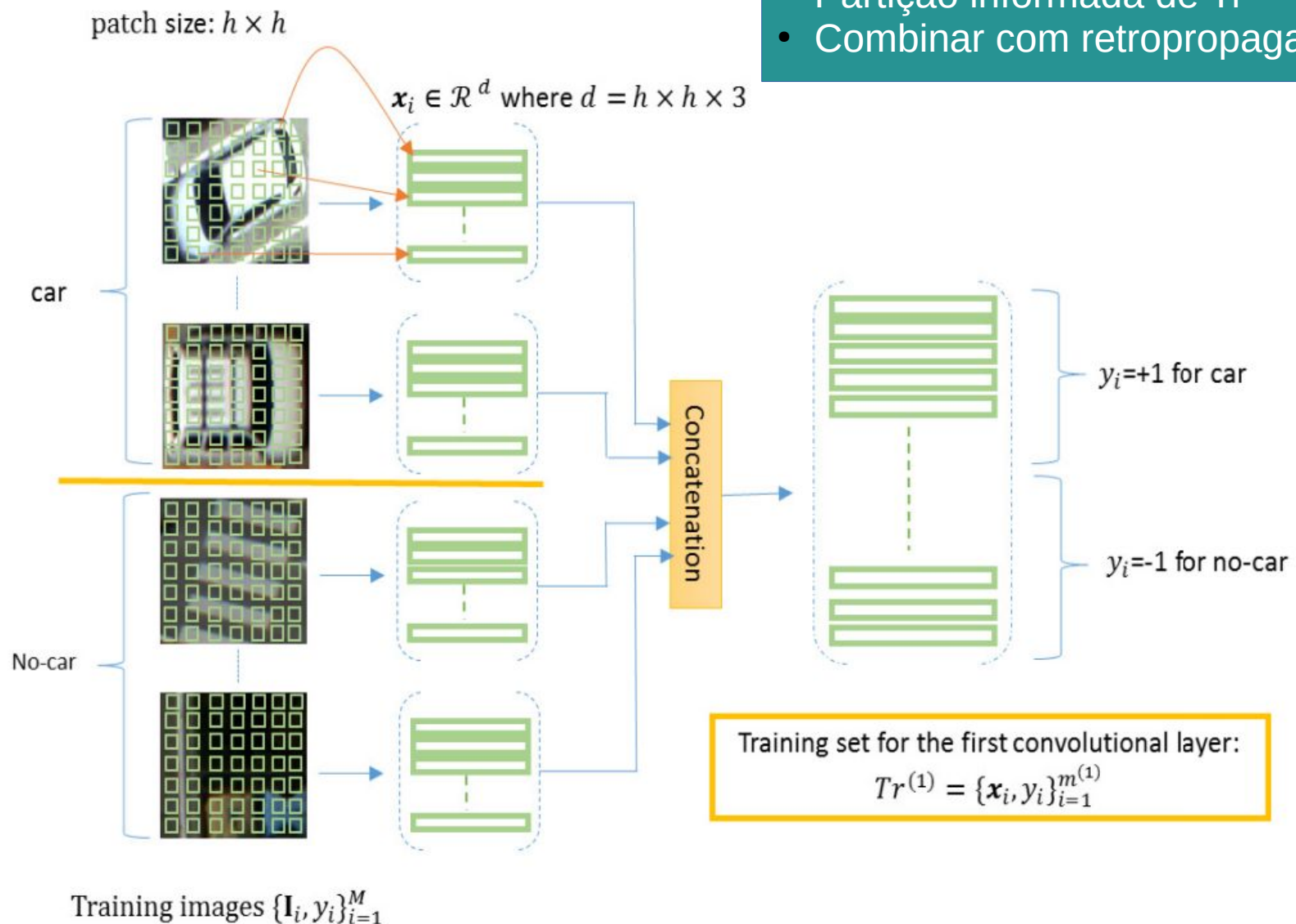
Máquinas de Vetores de Suporte Convolucionais (CSVM)

- Truque do núcleo X ReLU
- Partição informada de Tr



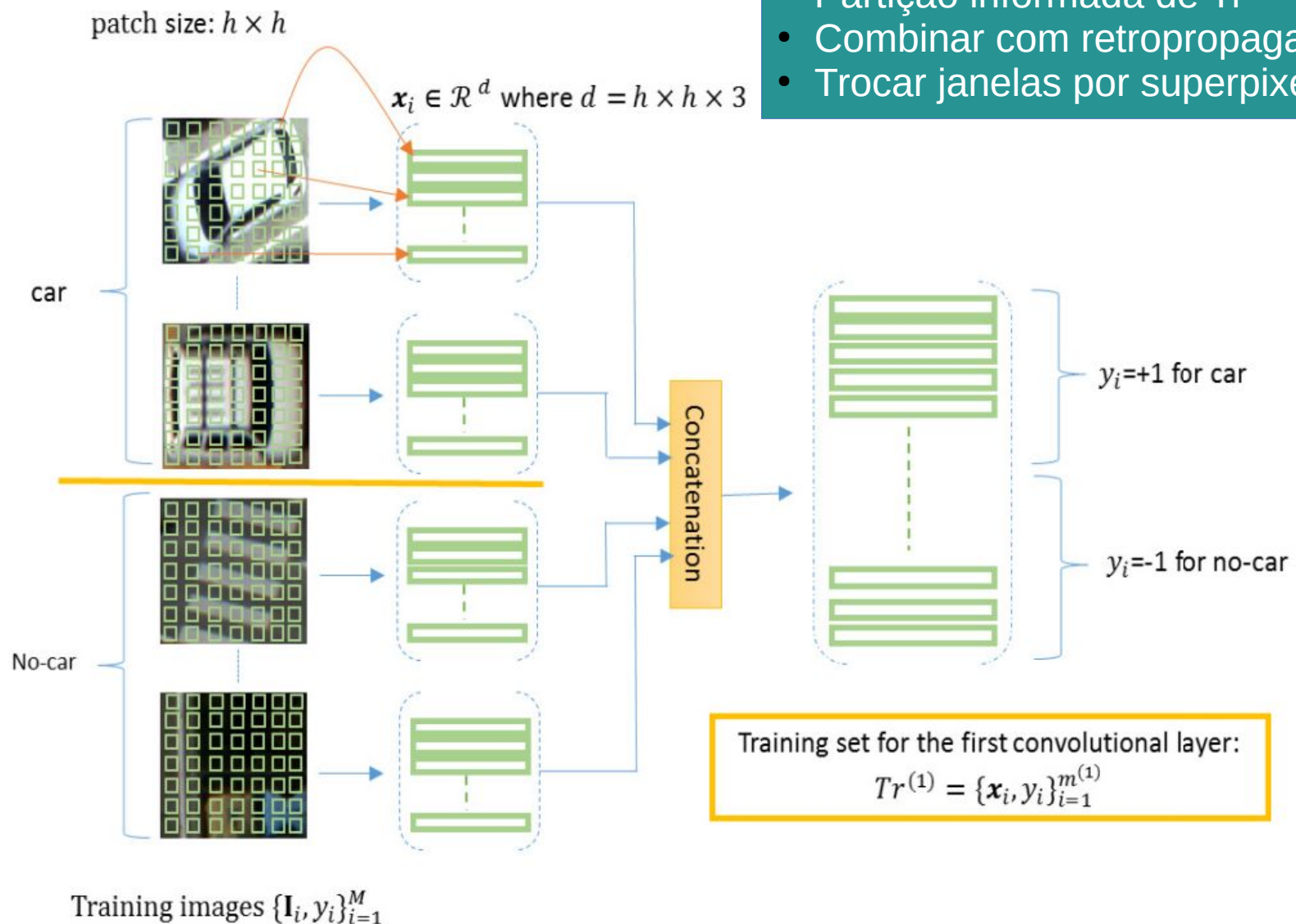
Máquinas de Vetores de Suporte Convolucionais (CSVM)

- Truque do núcleo X ReLU
- Partição informada de Tr
- Combinar com retropropagação



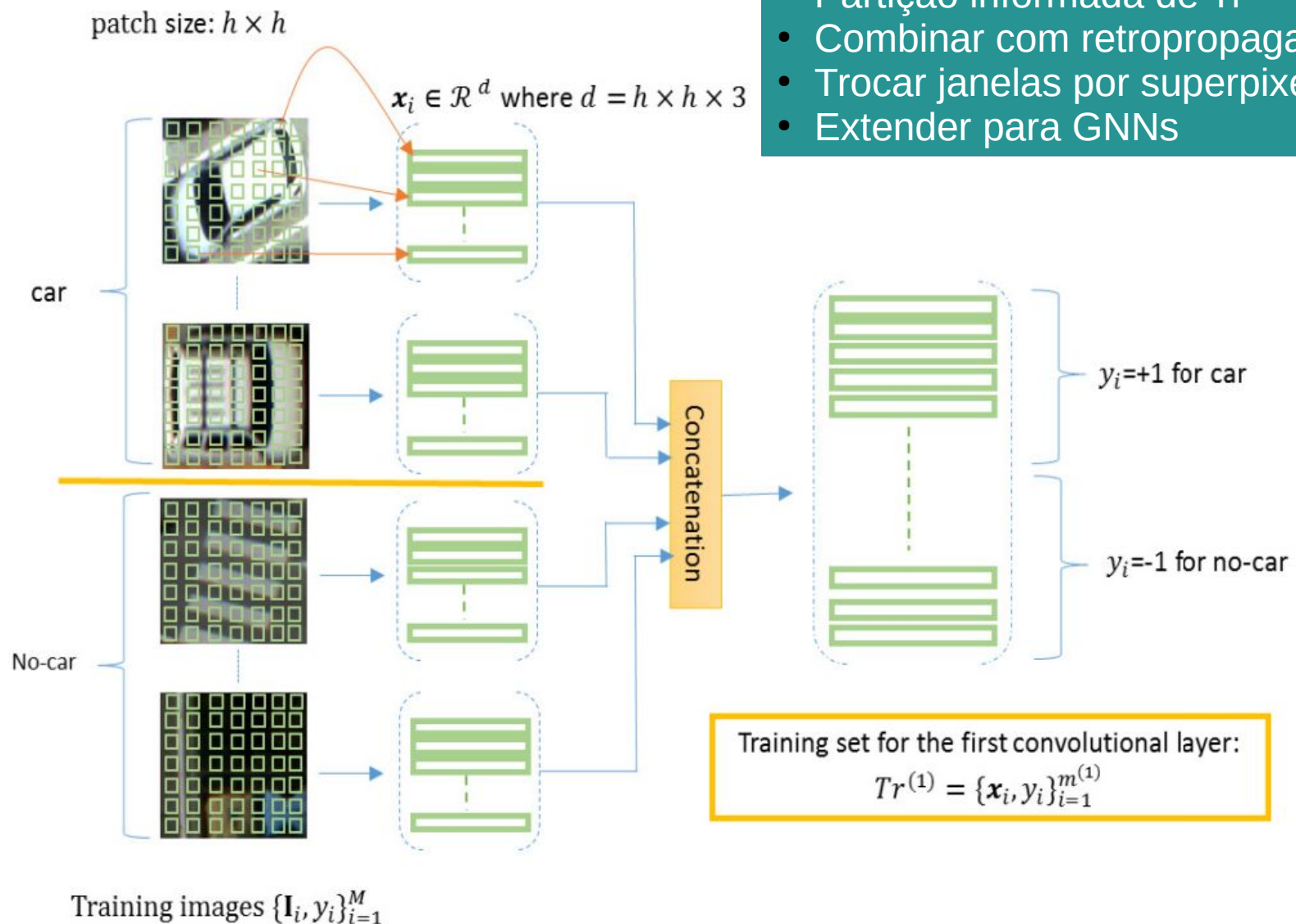
Máquinas de Vetores de Suporte Convolucionais (CSVM)

- Truque do núcleo X ReLU
- Partição informada de Tr
- Combinar com retropropagação
- Trocar janelas por superpixel



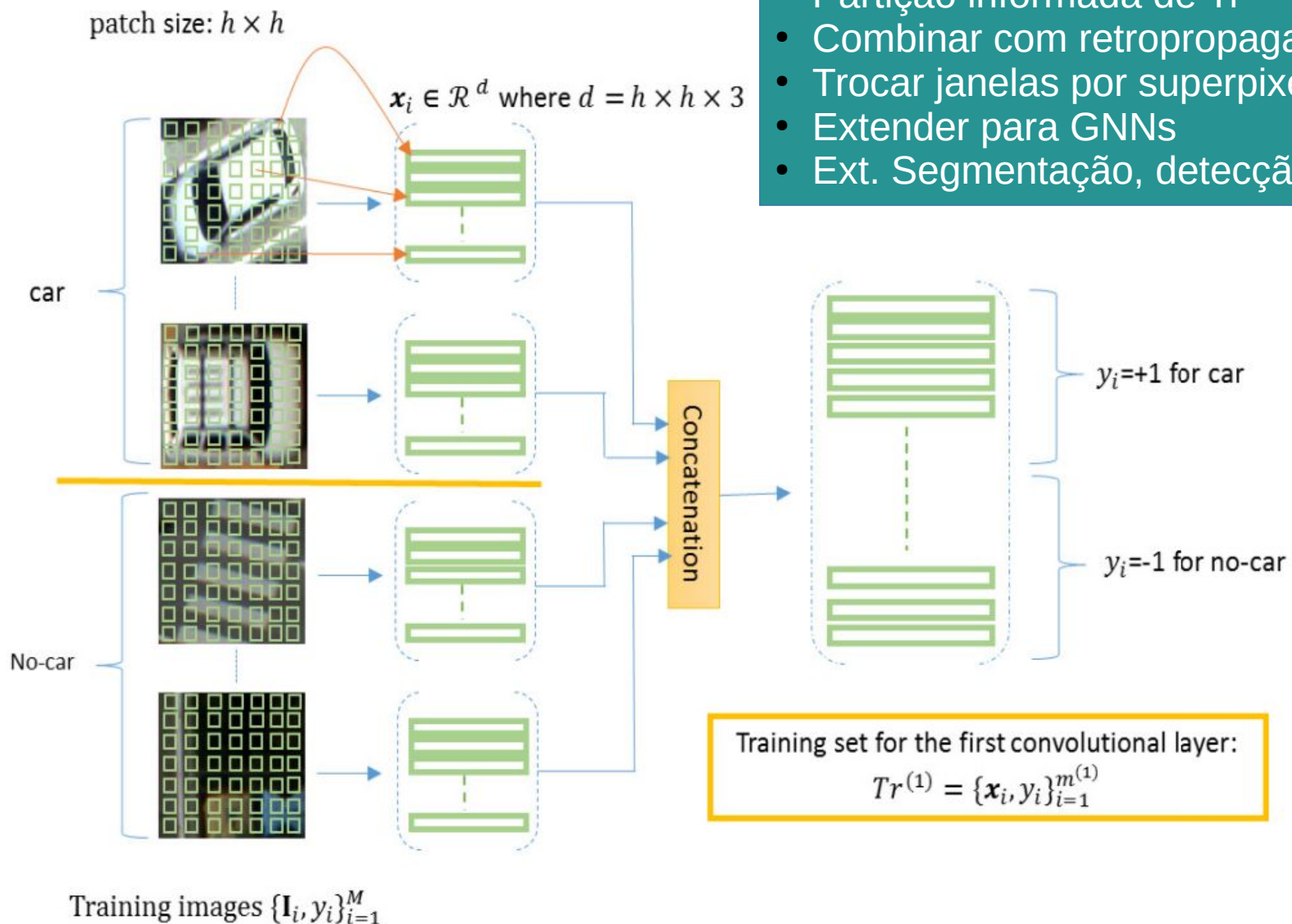
Máquinas de Vetores de Suporte Convolucionais (CSVM)

- Truque do núcleo X ReLU
- Partição informada de Tr
- Combinar com retropropagação
- Trocar janelas por superpixels
- Extender para GNNs

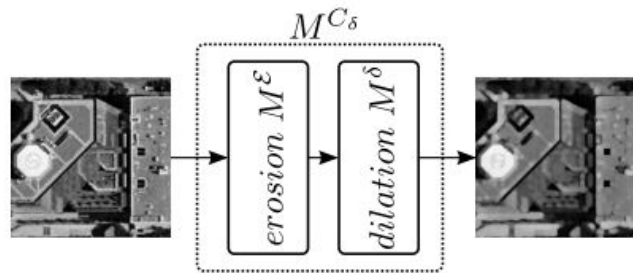


Máquinas de Vetores de Suporte Convolucionais (CSVM)

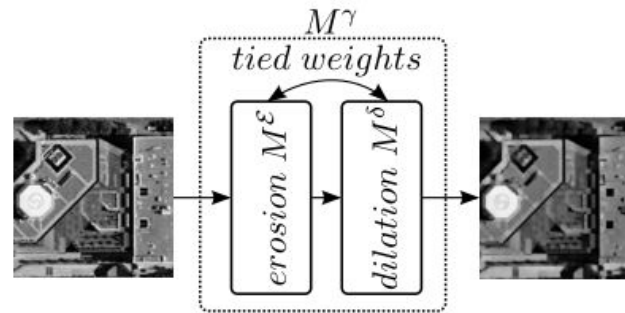
- Truque do núcleo X ReLU
- Partição informada de Tr
- Combinar com retropropagação
- Trocar janelas por superpixels
- Extender para GNNs
- Ext. Segmentação, detecção, etc



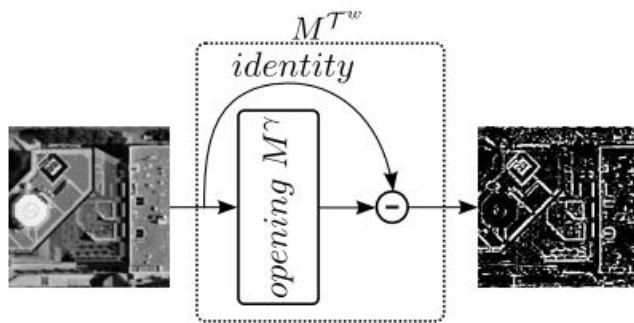
Redes Morfológicas Profundas



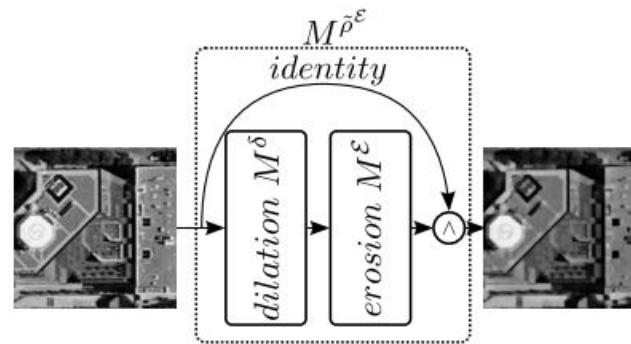
(a) Composed Neuron



(b) Opening Neuron

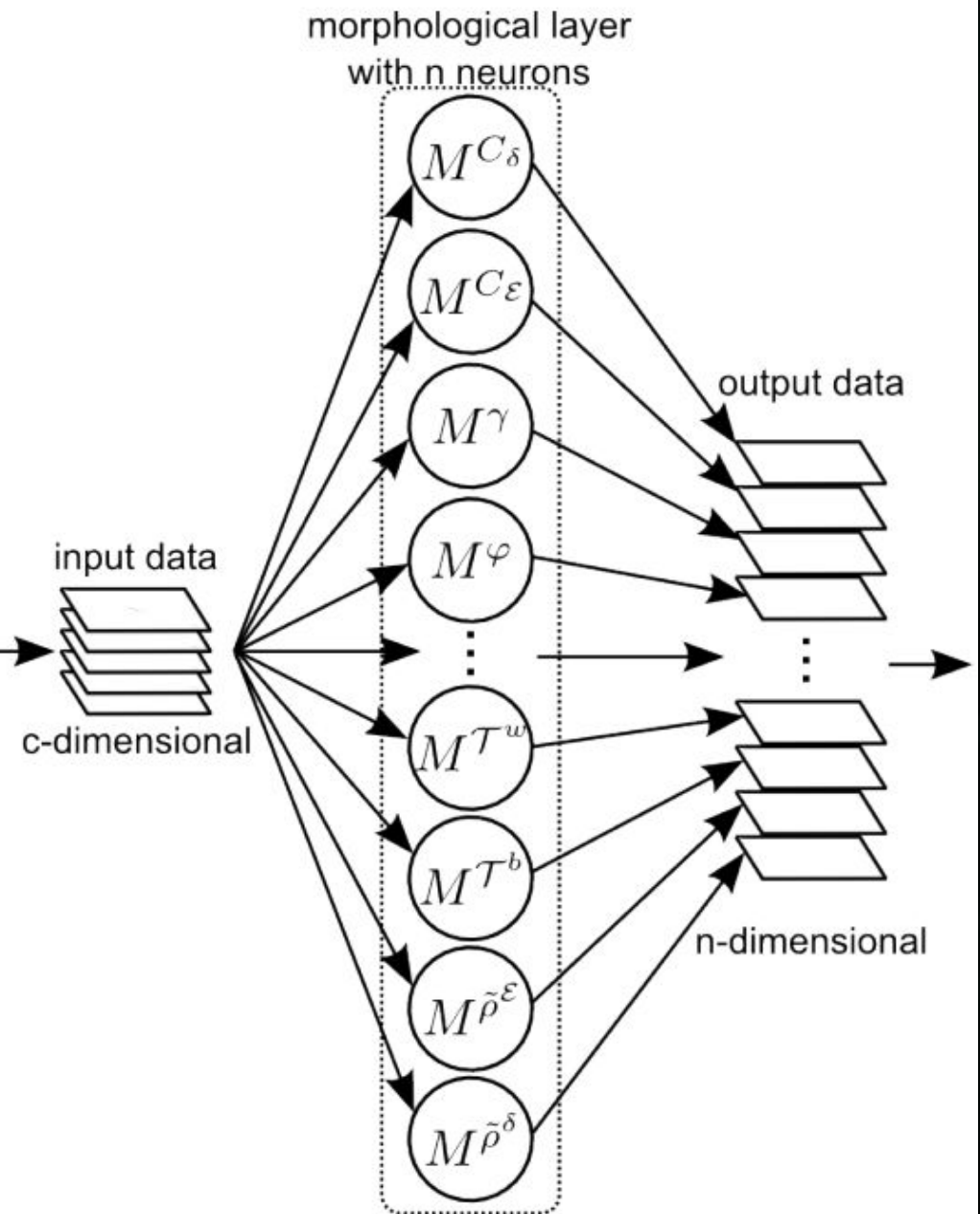
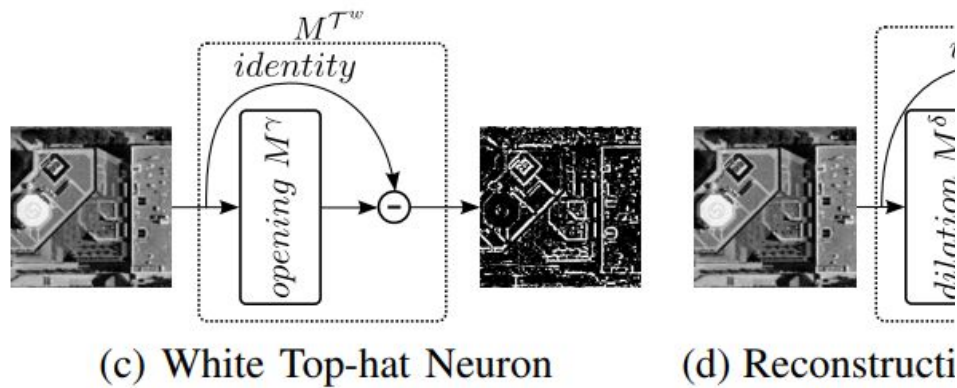
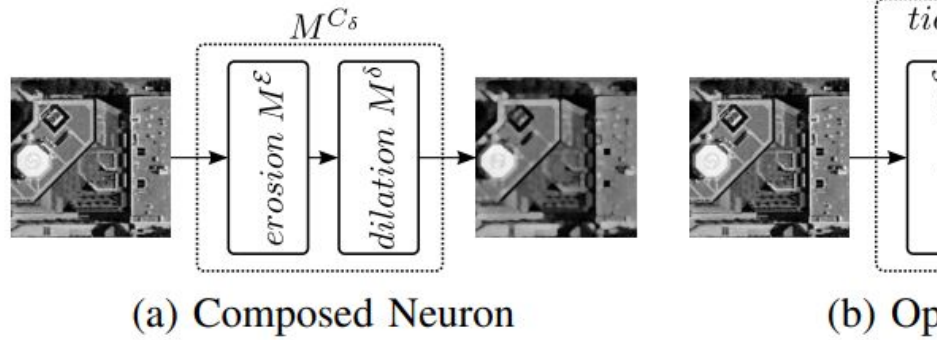


(c) White Top-hat Neuron



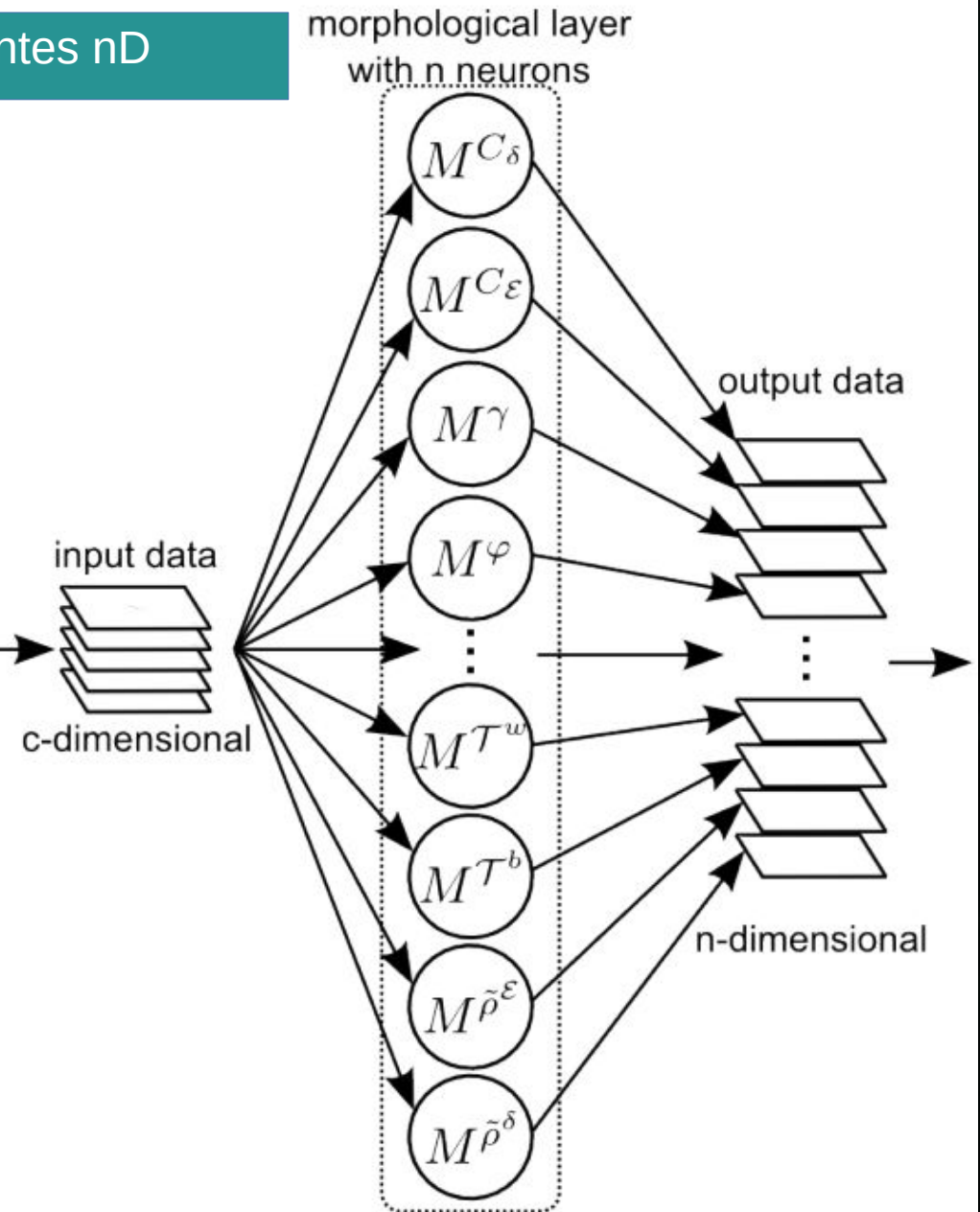
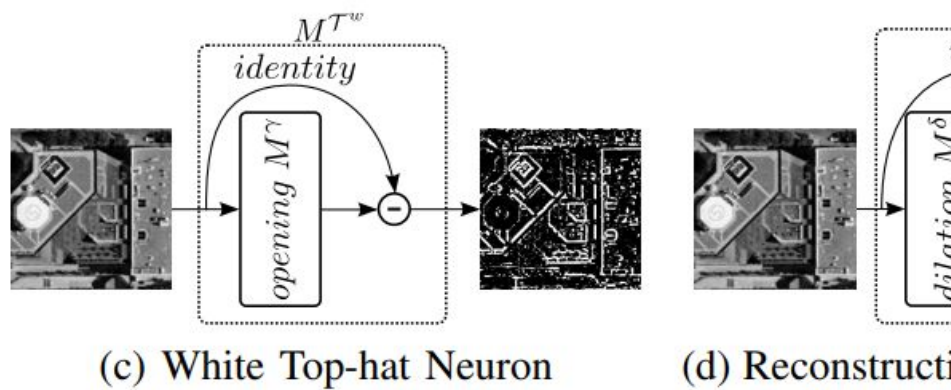
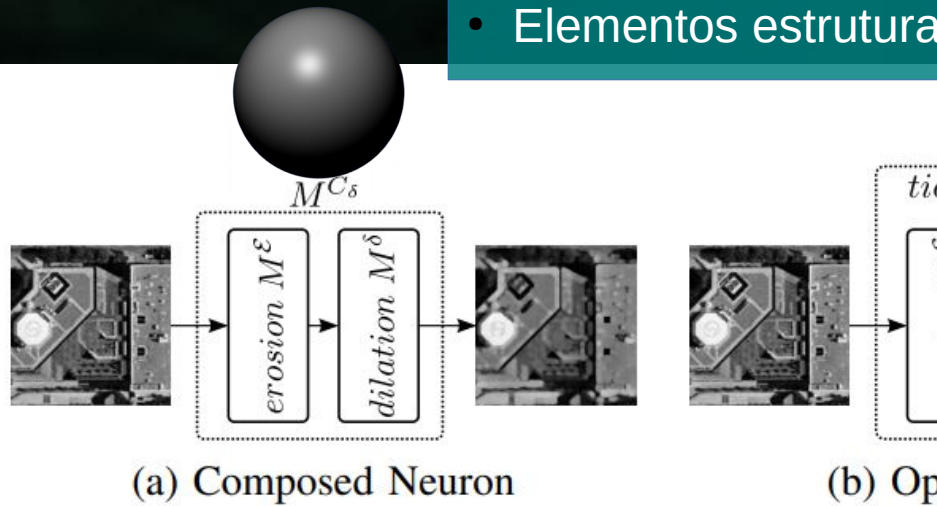
(d) Reconstruction by Erosion Neuron

Redes Morfológicas Profundas



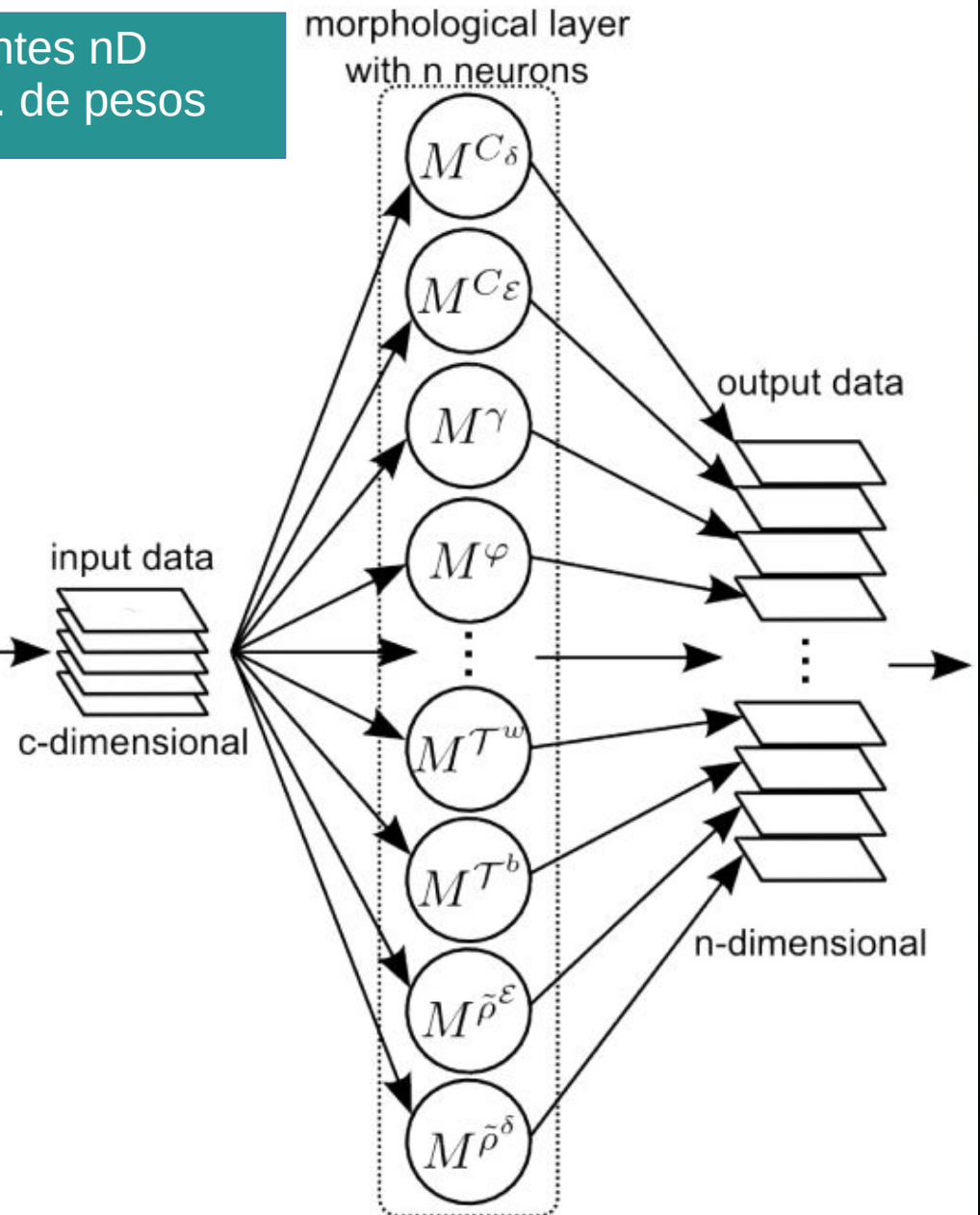
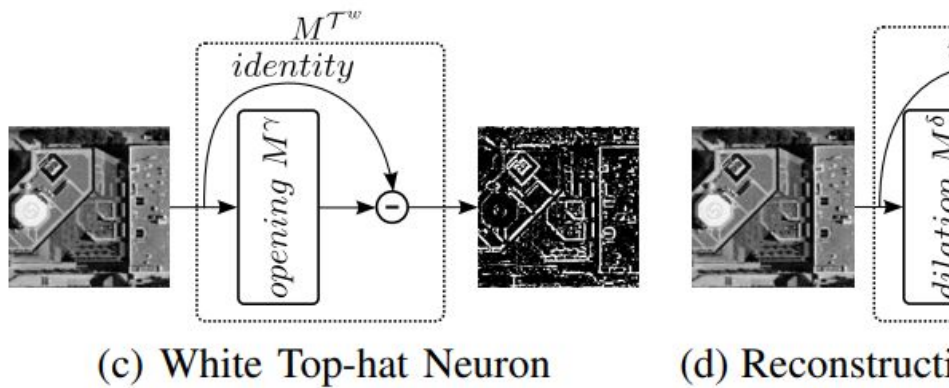
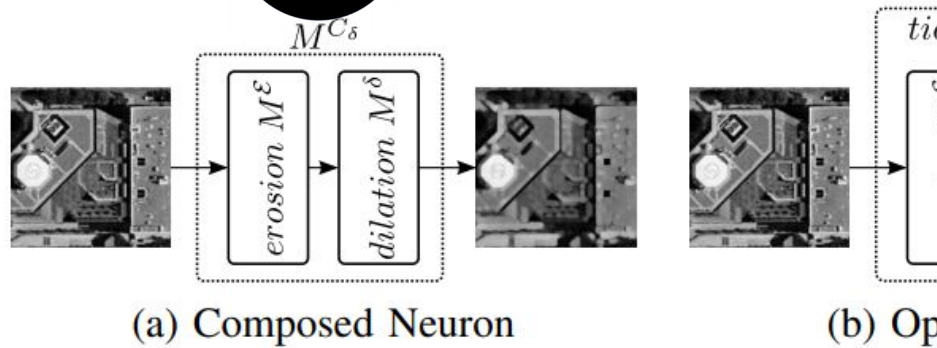
Redes Morfológicas Profundas

- Elementos estruturantes nD



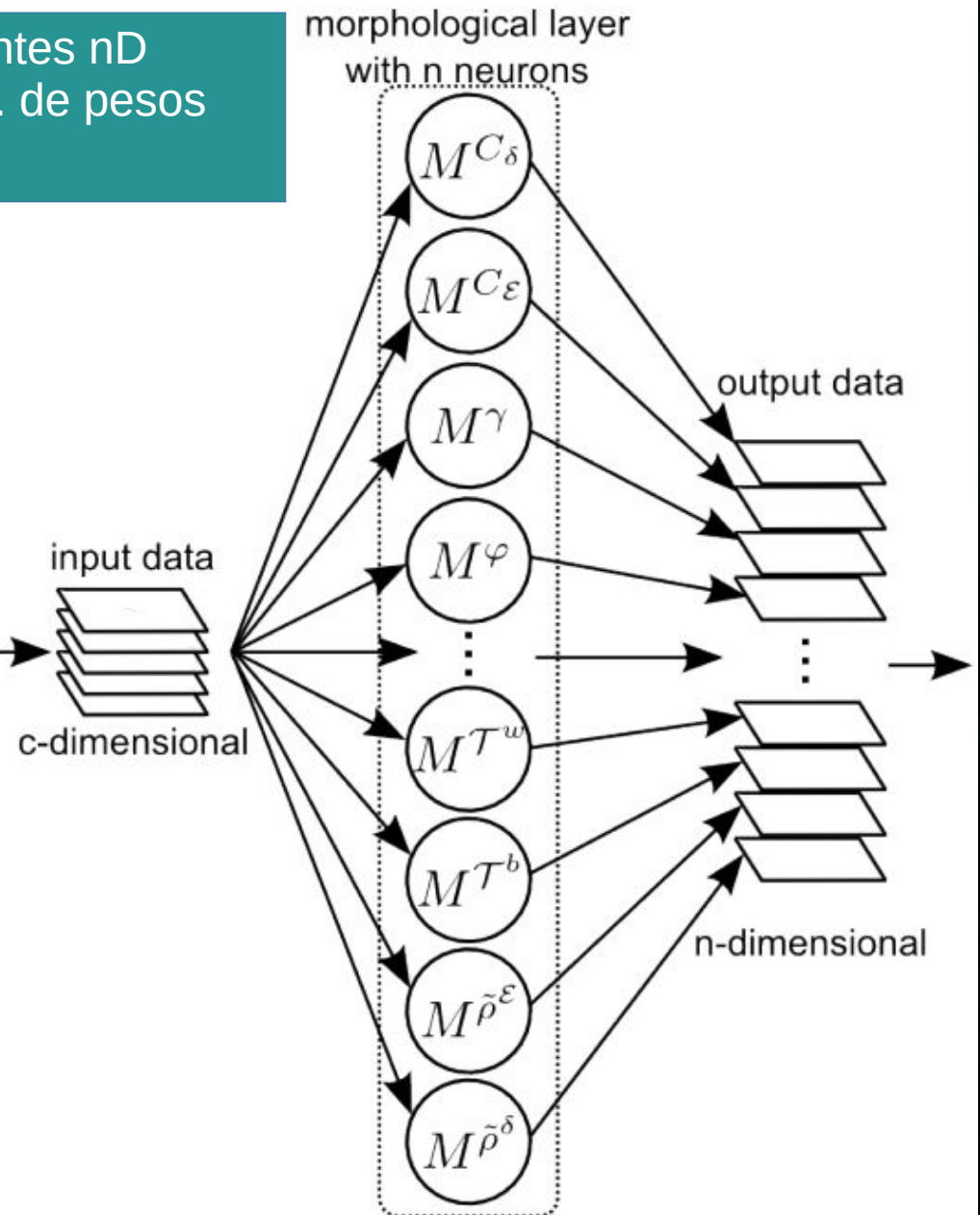
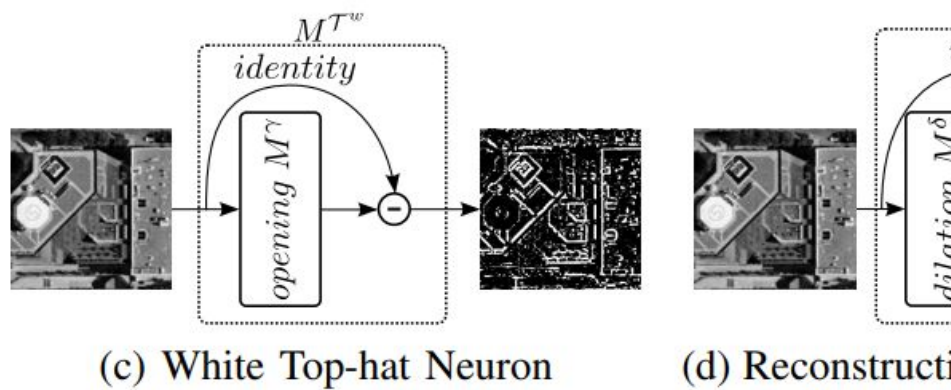
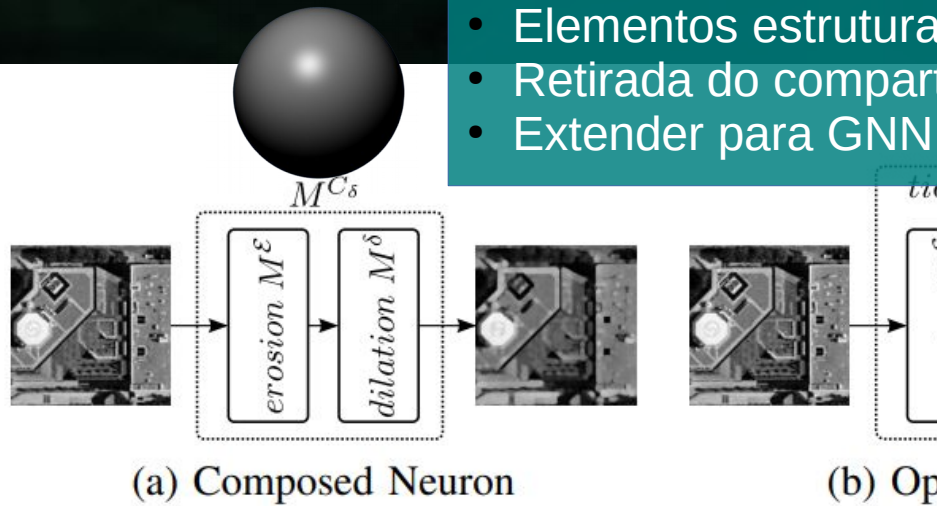
Redes Morfológicas Profundas

- Elementos estruturantes nD
- Retirada do compart. de pesos



Redes Morfológicas Profundas

- Elementos estruturantes nD
- Retirada do compart. de pesos
- Extender para GNN



Obrigado !!!

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