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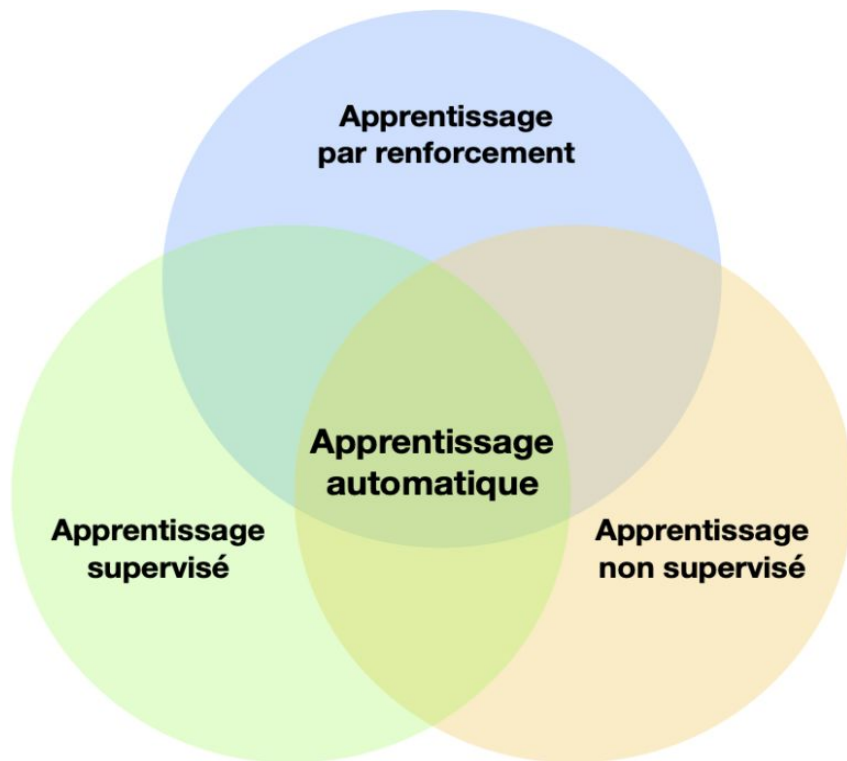
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# Presentation

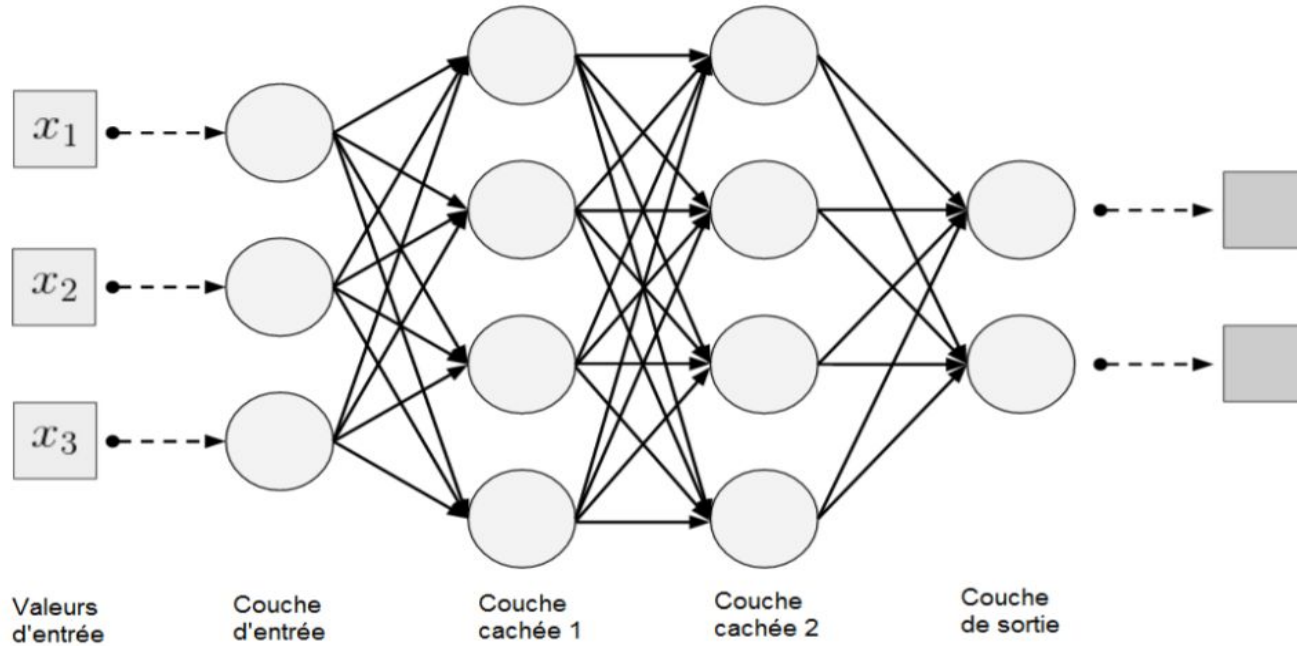
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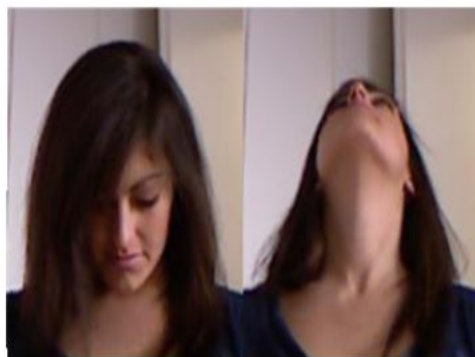
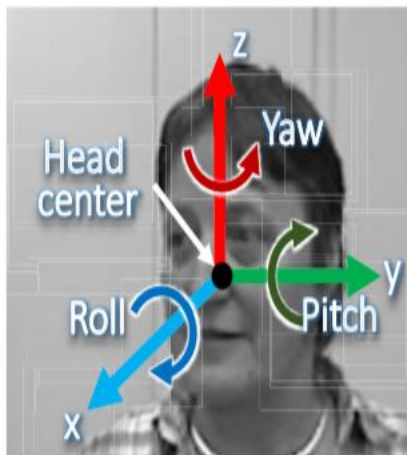
# L'apprentissage Automatique



# Les réseaux de neurones



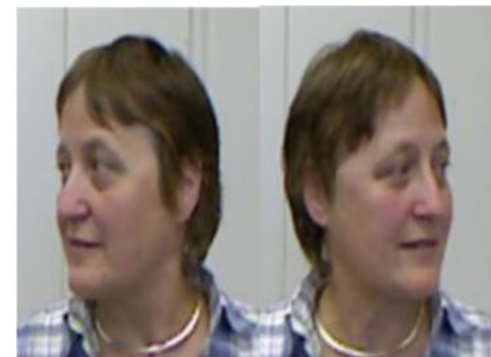
# Orientation de la tête en temps réel



Pitch:  $-22.2^\circ$     Pitch:  $64.7^\circ$



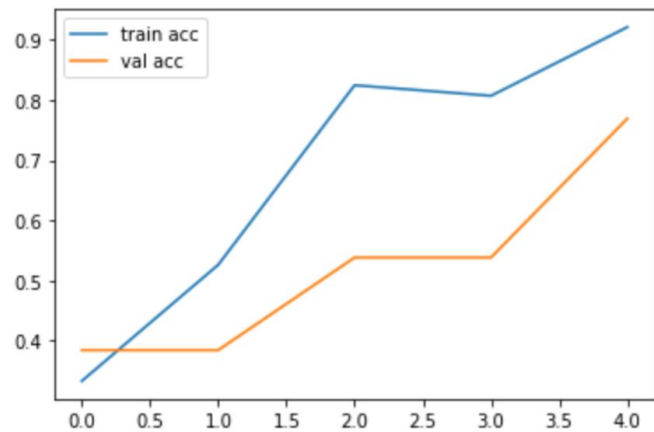
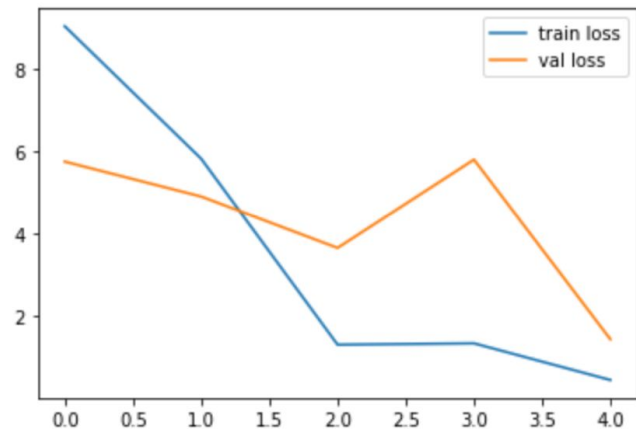
Roll:  $-32.5^\circ$     Roll:  $15.7^\circ$



Yaw:  $-47.8^\circ$     Yaw:  $46.1^\circ$

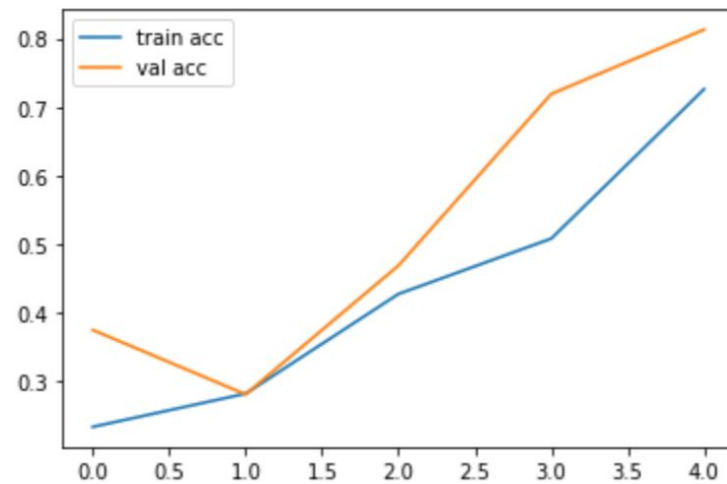
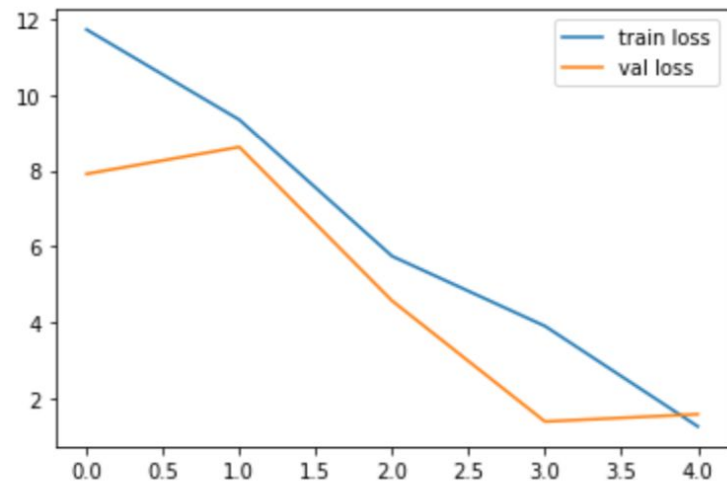
# Reconnaissance des visage:

- Activer la WebCam dans colab
- VGG16
- Definition de 3 classification
- 150 images
- Optimizer Adam
- La classe ImageDataGenerator
- Epochs = 5
- Training set: loss = 0.5339 et accuracy = 0.9202
- validation set: loss = 1.4389 et accuracy = 0.7692



# Reconnaissance des positions

- Activer la WebCam dans colab
- VGG16
- Definition de 6 classification
- 150 images
- Optimizer Adam
- La classe ImageDataGenerator
- Epochs = 5
- Training set: loss = 1.36 et accuracy = 0.71
- validation set: loss = 1.59 et accuracy = 0.81



# Reconnaissance des objets avec smartphone

- Connecter la camera de smartphone
- DroidCam
- YOLOv4
- 80 classe d'image
- 22 objets autorisé
- Notification en temps réel

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**Merci de votre attention**

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