Title - Deep Learning: Recent Trends and Applications

Organized by: EC Dept., SNPIT&RC, Umrakh, Bardoli.
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Technically Sponsored by: IEEE SPS, Gujarat Chapter

Total number of Participant (IEEE/Non-IEEE) - 63

Date of Event: 7th and 8th November 2020

Venue of event : Online through Google Meet

Description (Max : 500 words):

Deep learning is getting lot of attention lately and for a good reason. It's achieving results that were not possible before. Deep learning becomes important as many organizations, both public and private, have been collecting massive amounts of domain-specific information, which can contain useful information about problems such as national intelligence, cyber security, fraud detection, marketing, and medical informatics. Companies such as Google and Microsoft are analyzing large volumes of data for business analysis and decisions, impacting existing and future technology.

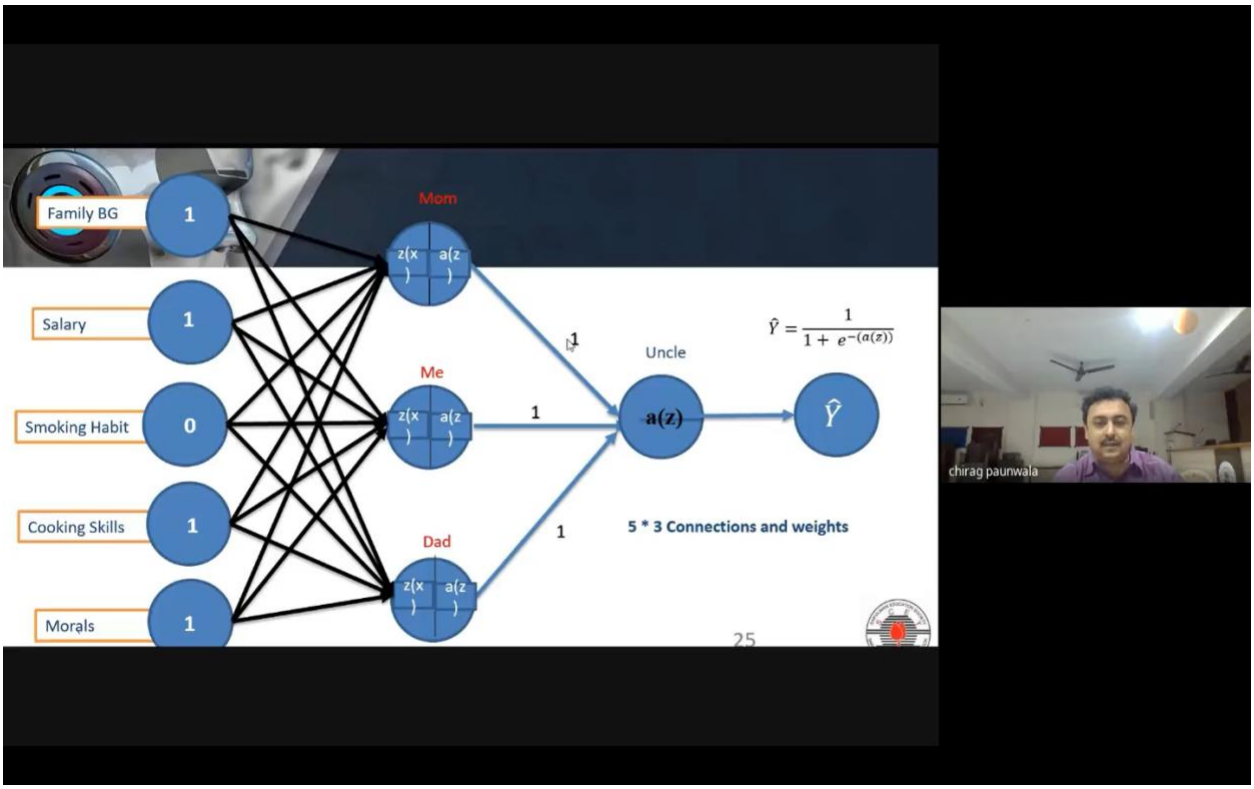
The topics covered in the organized workshop were as follows: -

- Overview of Artificial Intelligence.
- Difference between Machine Learning and Deep Learning.
- Difference between Supervised and Unsupervised Learning.
- Reinforcement Learning.
- Neural Networks and Logistic Regression.
- Gradient Descent and its variations.
- ROI methods and depth wise separable convolution.
- COVID-19 detection by using AI.
- Ornithology.
- Bird identification system based on Neural Networks and AI.
- Generative Adversarial Networks.
- NADAM Optimizer.

The workshop enlightened the audience and researchers with recent trend and challenges of today's world. The workshop presented a platform for exchanging ideas and discussing challenges with field experts.

The workshop also motivated and persuaded the researchers and students to select deep learning and to develop systems like driverless cars, voice control in consumer devices, and artificial assistance, which will prove beneficial for the nation.

Event Photographs


Family BG
Salary
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z(x)
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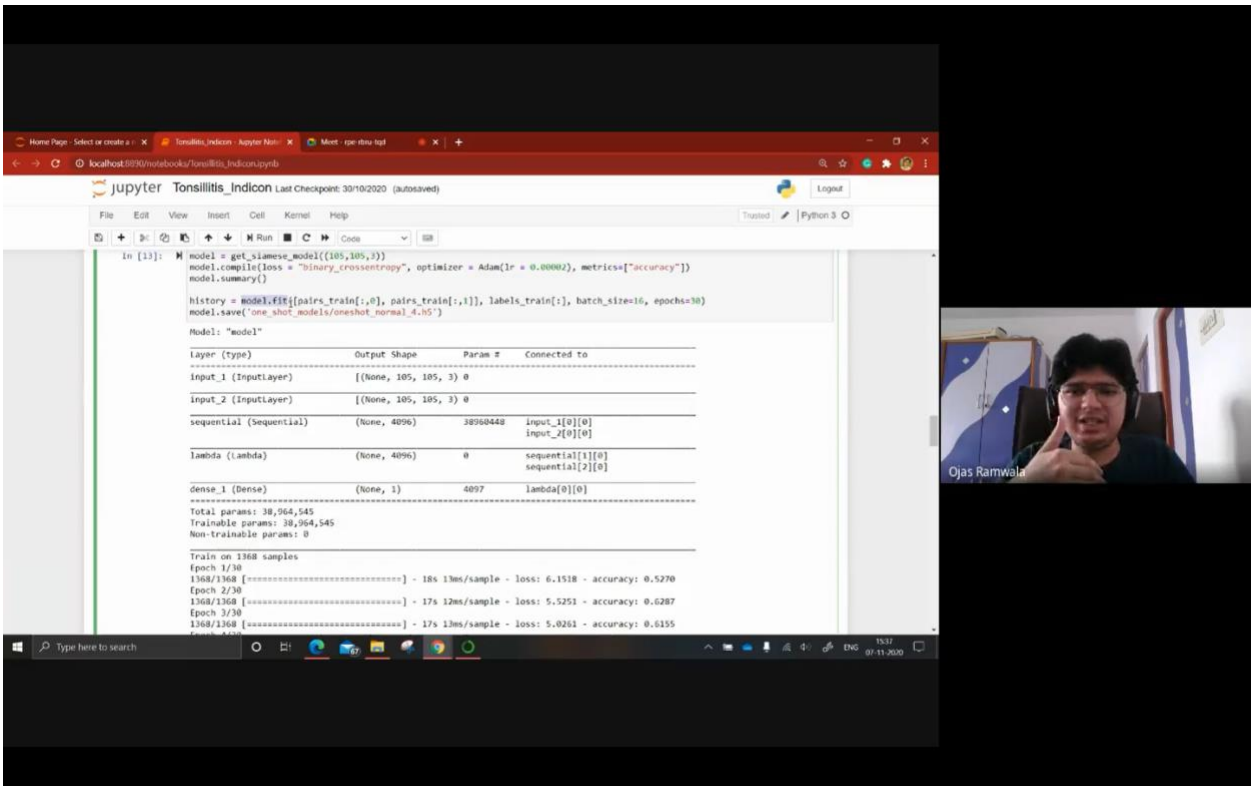
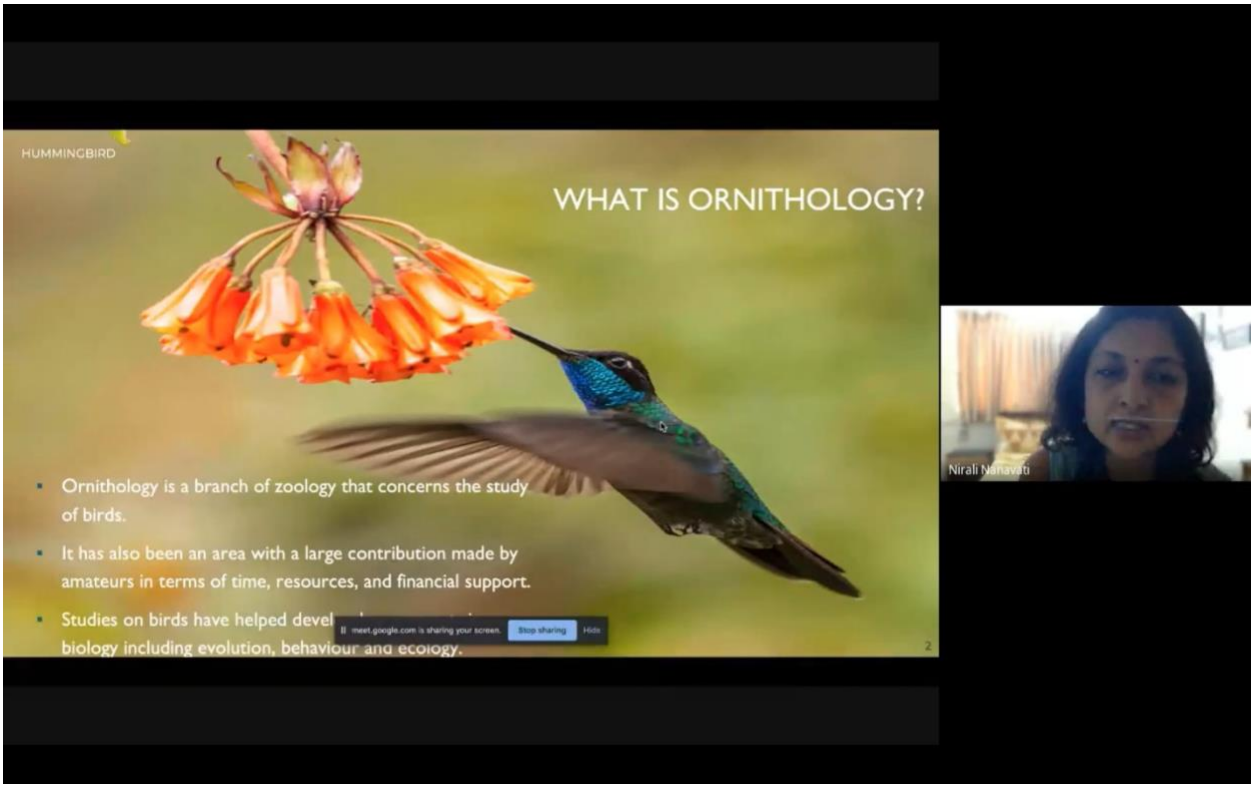
Uncle
a(z)
$\hat{Y} = \frac{1}{1 + e^{-(a(z))}}$
$\hat{Y}$
5 * 3 Connections and weights
25
chirag paunwala


jupyter Tonsillitis_Indicon Last Checkpoint: 30/10/2020 (autosaved)
File Edit View Insert Cell Kernel Help
In [13]:
model = get_siamese_model((105,105,3))
model.compile(loss = "binary_crossentropy", optimizer = Adam(lr = 0.00002), metrics=["accuracy"])
model.summary()
history = model.fit([pairs_train[:,0], pairs_train[:,1]], labels_train[:], batch_size=16, epochs=30)
model.save('one_shot_models/oneshot_normal_4.h5')
Model: "model"
Layer (type) Output Shape Param # Connected to
input_1 (InputLayer) [(None, 105, 105, 3) 0
input_2 (InputLayer) [(None, 105, 105, 3) 0
sequential (Sequential) (None, 4096) 38960448 input_1[0][0] input_2[0][0]
lambda (Lambda) (None, 4096) 0 sequential[1][0] sequential[2][0]
dense_1 (Dense) (None, 1) 4097 lambda[0][0]
Total params: 38,964,545
Trainable params: 38,964,545
Non-trainable params: 0
Train on 1368 samples
Epoch 1/30
1368/1368 [==========] - 18s 13ms/sample - loss: 6.1518 - accuracy: 0.5270
Epoch 2/30
1368/1368 [==========] - 17s 12ms/sample - loss: 5.5251 - accuracy: 0.6287
Epoch 3/30
1368/1368 [==========] - 17s 13ms/sample - loss: 5.0261 - accuracy: 0.6155
Ojas Ramwala


HUMMINGBIRD
WHAT IS ORNITHOLOGY?
Ornithology is a branch of zoology that concerns the study of birds.
It has also been an area with a large contribution made by amateurs in terms of time, resources, and financial support.
Studies on birds have helped devel
biology including evolution, behaviour and ecology.
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2
Nirali Nanavati

DEPTHWISE SEPARABLE CONVOLUTION

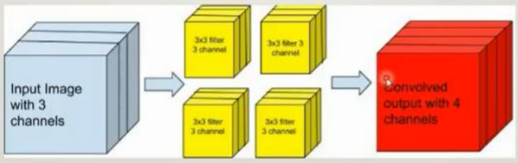

Figure 2. Conventional CNN Operation.