

# Applied AI



brought to you by:  
**inzva, Bev Foundation**

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# This Course: Learnings

## Developing on Fields in Artificial Intelligence

- Computer Vision
- Natural Language Processing
- Anomaly Detection
- Traditional Machine Learning

## Creating models and using algorithms

- ANNs
- CNNs
- Autoencoders
- GANs
- Embedding Layers
- SVMs, Trees, KNNs, Kmeans, LDA, PCA

## Using Deep Learning Frameworks

- Tensorflow
- Pytorch
- Keras
- DeepLearning4J
- SystemML

## Additional Skills

- Problem Identification and Formulation
- Exploratory Data Analysis
- Scaling, Distributed Computing
- Deployment
- Dataset Creation
- User Metrics

# This Week: Computer Vision

Subjects we managed to cover are signed with + (plus) sign.

Four problems:

- Classification +
- Localisation +
- Segmentation +
- Object Detection
- Image Generation

Four Model Types:

- Dense Networks +
- Convolutional Neural Networks +
- Autoencoders
- Generative Adversarial Networks

Four Frameworks:

- Tensorflow +
- Pytorch +
- Keras Functional +
- Keras Sequential +

Six Datasets:

- MNIST +
- CIFAR +
- Kaggle Face Keypoint Detection +
- (segmentation) +
- COCO for Object Detection
- Occlusion Dataset  
(Made with UTK Faces Dataset)

# Today's Schedule

Introduction	11.00-11.30
MNIST Classification with Dense Nets on Tensorflow	11.30-11.50
MNIST Classification with Conv Nets on Keras Functional API	11.50-12.15
<b>Lunch Break</b>	<b>12.15-13.00</b>
CIFAR Classification with Conv Nets on Keras Sequential API	13.00-13.30
Kaggle Facial Keypoints Detection with Conv Nets on KerasS	13.30-14.00
<b>Break</b>	<b>14.00-14.20</b>
Kaggle Facial Keypoints Detection with Conv Nets on Pytorch	14.20-15.00
Segmentation with an imported Model	15.00-15.30
Homework Description	15.30-16.00
Time Buffer	30mins