SAGIVTECH COURSES

Where AI & Computer Vision Meet

ABOUT SAGIVTECH

SagivTech was established in 2009 as a courses and projects company

Our main focus is in Computer Vision and Deep Learning

We provide R&D services in algorithms development and software implementation

We give courses for AI and Computer Vision since 2009 !

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TABLE OF CONTENTS

CLASSICAL COMPUTER VISION

- Sampling & Quantization
- Histograms based operations
- Convolutions
- Fourier
- Image Denoising
- Image Segmentation
- Image Restoration
- Classification
- Morphology

Target Audience: people who are new to image processing & computer vision, algorithms developers, engineers, SW developers

Duration: 24 academic hours

ADVANCED TOPICS IN COMPUTER VISION

- SIFT and friends
- Viola Jones
- Geodesic Active Contours
- HOG
- 3D Vision
- Image Formation
- Gabor & Wavelets
- Laplacian Gaussian Pyramid
- Super Resolution
- Blur
- HDR

Target Audience: people who are familiar with basics of image processing & computer vision, algorithms developers, engineers, SW developers

Duration: course is modular and can be tuned to the needs of the group

BASIC DEEP LEARNING FOR VISION

- The building blocks of Neural Networks (NN)
- NN for Classification
- NN for Segmentation
- NN for Object Detection
- Metrics for Deep Learning
- How to train NN
  - Introduction to image data pre-processing and data augmentation
  - Transfer learning for image classification

Target Audience: people who are new deep learning, algorithms developers, engineers, SW developers

Duration: 24 academic hours

ADVANCED DEEP LEARNING FOR VISION

- Object Detection:
  the RNN Family, SSD and YOLO
- Segmentation:
  FCN, Unet, MassRCNN,
  Deep Lab, Segment All

- Autoencoders & VAE
- RNN, LSTM, Transformers
- Diffusion Models
- GANS

Target Audience: people who are familiar with deep learning basics, algorithms developers, engineers, SW developers

Duration: course is modular and can be tuned to the needs of the group

CLASSICAL COMPUTER VISION FOR EVERYONE

- What is classical image processing and computer vision ?
- Sampling & Quantization
- Histograms and pixel wise operations
- Convolutions for denoising and edge detection
- Non linear operations: median, bilateral filter, morphology
- Fourier, Gabor and Wavelets
- Segmentation Methods
- Denoising Methods
- Super resolution
- HDR
- 3D Imaging
- Deconvolution
- Snakes & Variational approaches
- Viola Jones
- SIFT and friends
- HOG

The course aims to review classical image processing and computer vision methods to people who are new to this field

Duration: 2*4 hours sessions

AI IN COMPUTER VISION FOR EVERYONE

- A short history of AI
- The basics of CNN and how to train them
- Architectures for classification, detection and segmentation
- Metrics to evaluate AI
- Explainability
- Gans, SSD, Unet, RCNN Family, YOLO, DeepLab
- Autoencoders
- Transformers
- Diffusion Models
- Latest & Greatest

The course aims to review Deep Learning and AI in Computer Vision to people who ae new to this field.

Duration: 2*4 hours sessions