COMPUTER VISION

Workshop for gravitas 2018

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# OVERVIEW & OBJECTIVE

Cultivate interest in students on the field of computer vision and give them an idea of how they can easily leverage these technology to build cool and powerful applications. Help students gain hands-on experience in building computer vision applications.

# TOPICS COVERED

1. Introduction to Digital Image processing in python
2. Understanding artificial neural networks and the convolution layer
3. Hands-on tutorials on using computer vision algorithms
4. Some interesting applications developed with CV in GDG and recent innovations in the field

# MATERIALS NEEDED FROM PARTICIPANT

1. Laptop

# INTRODUCTION TO DIP

Hands on tutorial on how to use python for basic digital image processing tasks by using famous open source image processing (openCV) and linear algebra (numpy) libraries. Understand basic concepts of Digital Image Processing.

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# UNDERSTANDING ARTIFICIAL NEURAL NETWORKS AND THE CONVOLUTION LAYER

Understand how an artificial neural network works and the significance of the convolution layer in CV. Introduce deep learning frameworks like keras and build CV models with ease.

# HANDS-ON TUTORIALS ON USING COMPUTER VISION ALGORITHMS

Build hands-on computer vision models without having to set-up all the environment. Build models from dog vs cat all the way to using transfer learning to classify about 100 objects.

# EXPLORING APPLICATIONS OF COMPUTER VISION

Demonstration of interesting applications built by developers in GDG to help better understand the implications and the scope of computer vision. Discussion on recent trends in the field.