Abhay Kumar

Lead Data Scientist - Computer Vision

Bangalore | +91-9731-812-812 | abhayownsthis@gmail.com

in.linkedin.com/in/abhay-kumar-99780458 ⬡ abhaymise.github.io/

Summary

I am an applied computer vision data scientist who have had experience in a leading a bunch of other data scientists. I have used my leadership and applied deep learning skills to successfully execute various computer vision projects. Highly skilled in applied deep learning - Computer Vision. Good understanding of various computer vision techniques like classification, bounding box classification and regression(object detection),pixel wise prediction(segmentation), sequence classification with LSTMs (video classification). Good Interpreter of business requirements into technical terms and vice versa. Excellent in use case identification from business requirements.

Achievements include execution of various computer vision projects like building character identification,fashion style guide recommender, Fashion attribute predictor, activity detection, image search engine.

My work got accepted in AI & Deep Learning Conference | GTC 2018 | NVIDIA.
I am looking for a role where i can leverage my skills and experience for the betterment of the Organisation and further improvement to my own learning.

I am a regular AI/ML blogger. I am a firm believer in Andre NG's view of democratising AI. I pass on my knowledge to the community through various blogs.

Responsibilities

- To understand the business use cases from clients and convert them into a well defined problem statement and explain it to the development team.
- To identify data sets required to develop predictive models for solving internal and external business problems
- To fill data gap by gathering data , designing annotationportal and conducting data annotation by human annotators.
- To explore data sets and identify data transformation and data quality needs for targeted applications
- To d evelop algorithms and predictive models to derive insights and business value from data
- To provide leadership and mentorship to other members of the team.
- Identify and implement use cases which might help the organisation business development
- To interpret results and produce actionable business insights that lead to measurable business and consumer experience performance improvements
- To Operationalize, publish, and monitor successful models to shape business and data science strategy
- To partner with other departments to solve problems and identify trends and opportunities
- To define and develop the program for metrics creation, data collection, modeling, and reporting the operational performance
- To work cross-functionally to define problem statements, collect data, build analytical models and make recommendations.
- To routinely communicate metrics, progresses and other key indicators to leadership.
- To lead and support various ad hoc projects, as needed, in support of Organizations's Business strategy.

Work experience

Lead Data Scientist - Computer Vision   2017 - 2018
Cogknit Semantics

Skills

core python

numpy

pandas

tensorflow

caffe

openCV

Machine Learning

Deep Learning

Others

- **Spark RDD,DataFrame** : Used for Data transformation
- **MapReduce** : Used as a data processing engine
- **R** : Experimental works mainly on structured data

Leads a team of 15 members including data scientists,product engineers and UI engineers.

Data Scientist   2016 - 2017
Cogknit Semantics
First member of the computer vision team in the organisation

Data Engineer   2015 - 2016
Cogknit Semantics

Senior Research Analyst   2013 - 2015
Edureka

Education

Bachelor of Engineering,Computer Science   2009 - 2013
visvesvaraya technological university

Machine Learning by Stanford University on   June 15, 2016 - June 15, 2016
Coursera with 96.1%
Stanford
A machine learning course by one of the pioneer of Artificial Intelligence

Deep Learning Specialisation   2017 - 2017
Deeplearning.ai
It carries 5 deep learning courses with focus on Neural Net , CNN , LSTM and Bi-LSTMs

Attended cs231n CNN for visual Recognition course   2016 - 2016
Stanford
Attended and completed all the assignments of the course

Achievement

A Poster on "Domain Adaption of Image Caption Model for Video Descriptions"was accepted
at **AI & Deep Learning Conference | GTC 2018 | NVIDIA**
Multiple blogs has been identified as best reads across various ML/AI forums

Projects

Men Style Guide creation   2018 - present
Cogknit Semantics
Recommend best matching attire for men given a particular attire. The recommended attire is
created on the fly with an inspiration from an automated style guide. The automated style
guide brings the trend factor by following feeds of the fashion celebrities and accordingly
create the combination for recommendation.
Built with pandas, numpy, tensorflow, keras

Metadata Extraction from a media content   2018 - present
Cogknit Semantics

Extract attributes like scene count,scene boundaries of each scene, scene identification , Character identification , Character's facial features identification , activity detection , objectionable activity flagging , speaker identification and close caption generation across all scenes. The extracted attributes will be exposed micro service for further business monetisation.

Built with tensorflow, Kaldi, Keras,OpenCV

Face and Voice based authenticated wallet   2017 - 2018

Cogknit Semantics

An authentication system which can be provide multi modal authentication with signals from face and voice . The authentication can be attached against any payment system . In our case we attached it against a payment system which was running over blockchain.

Automated transcript generation from advertisement video for   2017 - 2017
e-retail

Cogknit Semantics

The project aims in solving a business case the e-retailers website should accessible to a visually impaired person. Aim is to create a transcripts having visual and audio information about the given video. This transcript would contain complete information including all actions , emotions , clothing attributes and spoken sentences. This transcript would be used by the video owners in explaining their products to visually impaired person.

Built with tensorflow, Kaldi, Keras,OpenCV

Scene Retrieval using Tensorflow and Opencv   2016 - 2017

Cogknit Semantics

This system allows you to retrieve and play a video from the scene that you desire.

Built using openCV as means of IO,Inception-v3 CNN encoder from tensorflow to extract features of the video.

Image search using tensorflow   2016 - 2017

Cogknit Semantics

This system has been trained to recognise categories of the query image and then to retrieve the most closest match under the identified category as a search result.

Built with tensorflow CNN classifier, encoder and vectorised search system.

Automated image curation system using tensorflow   2016 - 2017

Cogknit Semantics

This system helps in accelerating the cleaning process of the training data of image classifiers. It brings out all the junks from the training data and provides a system to delete/move from the categories.

Built with tensorflow CNN feature extractors and vectorised information retrieval technique.

Auto correction of e-Commerce catalogue using caffe   2016 - 2016

Cogknit Semantics

This system tries to find the mis-placed item under a category in an e-commerce catalogue.Once it finds the misplaced item it reports it to the admin and then suggest the correct category under which the product should actually be placed.

Built with caffe CNN classifier.

Automated Attendance system   2017 - 2018

Cogknit Semantics

This marks an employee presence in office by detecting his/her face at the entry of the office.

Built with tensorflow CNN classifier and openCV.

Auto tagging of visual contents for indexing using tensorflow   2017 - 2017

Cogknit Semantics

This system automatically generates a textual description of an image.

This also marks the image with multiple tags as per the objects detected in the image.

Captioning system built with CNN-LSTM encoder-decoder system. Meta tag generation is built using Faster-RCNN network.

Recommendation System for smart learning using numpy   2015 - 2016

Cogknit Semantics

Recommends learning contents to an user based on his and his peer activities.The learning process of like minded learners is collaborated to suggest new and useful contents to an user.

Collaborative filtering of user and item attributes has been used .