Aayush Tyagi

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Education

Indraprastha institute of information Technology(IIIT-D) M.Tech(Communication and signal processing) 2016 – 2018	CGPA:7.78
Vidyalankar institute of technology, Mumbai Btech(Electronics engineering) 2011-2015	Percentage:74
Kendriya Vidyalaya A.F.S Ojhar,Nasik CBSE 2009 – 2011	Percentage: 77
Kendriya Vidyalaya, Rajokri, New Delhi CBSE 2006 – 2009	Percentage: 84.3

Skills

Expertise Area	Deep learning , Computer Vision
Interest Area	Machine learning and Deep learning
Programming Language	Python, Matlab
Tools and Technologies	Tensorflow, ,Pytorch ,Scikit-learn, Opencv,

Experience

- Currently working as Research Assistant at IIT-Delhi under Dr. A.P.Prathosh in field on computer vision and deep learning (1st Oct 19 – Present).
- I worked as Data Scientist at Innefu Labs Pvt. Ltd. New Delhi (1st Aug 18 – 31st Sept 19)
- Worked as student researcher at IIIT-Delhi while pursuing MTech (1st Jun17- July18).

Projects

Skin Segmentation from NIR images   (Oct, 19 – Mar, 20)

We casted **skin segmentation** problem as **unsupervised domain adaptation** (UDA) problem where we use data from Red channel of visible-range to develop skin segmentation algorithm on NIR images(ECCV2020-Spotlight).

Cancer of unknown primary   (Oct, 19 – Jan, 20)

We develop a **cancer classifier** to classify 39 types of cancers from their gene expression. We also worked on model interpretability to analyze the genes which contribute to improve classification(Inprogress).

Retail Analytics   (Jan,19 – Sept, 19)
We are working on giving insight about customer's hot zones/ most visited parts in store.
For this purpose we created **person detection model for high angle cameras** and
Person re-identification. In addition to this we trained a classifier to differentiate between
customer and employee to get the exact number of customers visiting store.
As a part of same project we also trained **ResNet50 for attribute classification** for
classifying 50 attributes like age, gender and clothes to get attribute information of
customers.

Safety gear detection   (Mar, 19– June, 19)
Worked on end to end solution for Hindustan Petroleum for safely gear detection (fire
extinguisher, helmet, safety jacket and boots) while oil filling. Work included from data
collection to **safety gear detection** model training to deployment.

Face recognition and Video analytics   (Aug, 18 – Dec, 18)
We worked on building a video analytics product for law enforcement agencies to detect
malicious activity in restricted area, persons carrying weapons and performing suspected
actions like throwing anything or crawling/crouching near fences .We used **object
detection and activity recognition using pose estimation** to solve it.

Personalized Speech synthesis system   (Aug, 17-Mar, 18)
Guide:Dr Saket Anand   Thesis
Motivation of this project is to **disentangle the pitch component** from the latent space
using **variational autoencoder and adversarial training**. We tried to extract pitch
component in order to perform voice transformation from male to female and vice versa.

Speech synthesis and Mimicking system   (Aug, 17-Nov, 30)
Guide:Dr. Saket Anand   Team Size-3
Motivation of this project is to create mimicking system that can transform source speaker
speech into target speaker while preserving linguistic content. We explored time series
models **GMM, LSTM, Bidirectional LSTM and GRU** for same.

Publications

- Skin Segmentation from NIR Images using Unsupervised Domain Adaptation through Generative
  Latent Search (ECCV2020 Spotlight)

Awards
- Gold medal in Intra-college cricket tournament(2014)
- Silver medal in intra-college volleyball tournament (2014,2013)
- Ranked 7th in state, 63th in India in National biotechnology Olympiad (2011)
- Ranked 3rd in state, 27th in India in National biotechnology Olympiad (2010)
- AFWWA scholarship for college student awarded based on merit basis for the year 2012-
  2013.
- Bronze medal in Under-17 cricket tournament cluster level (2009)

Interests and Hobbies

- Cricket
- Music
- Exploring New places
- Acquiring new skills

Declaration: The above information is correct to the best of my knowledge.
Aayush Tyagi
Date: 8/7/2020