Abhishek Aggarwal

A Computer Vision & Machine Learning Developer

I am an enthusiastic, responsible and hardworking IT person. Being worked for different projects helped me to adapt to the changes quickly and made me a mature team worker who can work under pressure and adhere to strict deadlines.

15th September 1997 (22, Male)

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EXPERIENCE

July 2019 - PRESENT

Tata Consultancy Services, Noida — *Systems Engineer*

As a system engineer in TCS, I had worked on different domains including **Satellite Image Processing**, **Deep Learning**, **Computer Vision** etc. I was also responsible for working closely with UI team and developing a platform for General Surveillance which includes **Face detection & Recognition, Person Tracking and liveness detection.**

July 2018 - September 2018

Netcamp Solutions, Ghaziabad — *Internship*

During the internship, I was trained in **Web Development, Android App Development and Networking Concepts** and henceforth given projects to be completed within deadline.

Tools Used: VMware, Redhat Linux, Cisco Packet Tracer, Android Studio, Wampp Server.

PUBLICATIONS

5th June 2020 – 7th June 2020

Comparative Assessment of Different Deep Learning Models for Aircraft Detection

2020 International Conference for Emerging Technology (INCET)

Wrote a research paper along with my team members about the comparative study of three models – (**YoloV3, SSD and RCNN**) for small scale **object detection like aircraft on satellite images** and presented it to IEEE Bangalore in INCET 2020 conference.

SKILLS

Operating System: Linux, Windows

Data Structures (C++, JAVA)

Version Control (Git)

Python (NumPy, Pandas, Matplotlib, PyTorch, Keras, Scikit-learn, Flask)

Tools (Anaconda Framework, VSCode, Android Stdio)

Machine Learning, Data Analysis

Computer Vision, Face Recognition, Object Detection

Docker

AWARDS & CERTIFICATIONS

Deep Learning Specialization by Andrew Ng: Completed various courses on Deep learning in this specialization on Coursera ranging from Simple neural networks to CNN and Sequence Models.

Awarded with a title of CodeStar during Farewell at Raj Kumar Goel Institute of Technology in May, 2019.

Yellow coder on Codechef: Achieved a rating of **2071** on codechef during September 2018.

TCS Codevita: 28th Rank in TCS codevita coding platform in August 2018

PROJECTS

May 2020 – July 2020

Intelligent Face Detection & Recognition System along with Liveness Check

- Face detection using **OpenCV** and then using Dlib to get facial features embedding vectors.
- Using that embedding vector to recognize the person in a video live stream.
- Detecting various features like **eye blinking and head movement** in order to check **liveness** of a person in live camera footage.

March 2020 – May 2020

Video Analytics for Personal Safety during Pandemic Times

- As a part of Decision Fabric Platform Team in TCS, I worked closely to build a live **intelligent video analytics platform to detect different person and track their inter zone movements** across office premises.
- Then I also worked to leverage this solution in order to detect **whether an person in a live CCTV video stream is following safety standards by wearing mask** and maintaining social distancing among other employees as well.

November 2019 – February 2020

Deep Learning based Classification & Change Detection in Satellite Imagery

- The project aims to classify **Landsat 8 image into some predefined classes and then detect the changes happened** in the area over a period of time.
- The Image is classified into 7 classes which are Water, Slums, Structured urban areas, Soil, Dense forest, Vegetation, Road.
- The classification was performed using **SVM(Support Vector Machines)**. Also various index calculation **(like NDVI & EVI)** are calculated.

August 2019 – October 2019

Small scale Aircraft Detection in Satellite Images

- The main aim of this project was to **detect various aircraft in satellite images** and give the count of all aircraft present in a particular location (airport) at a particular time.
- For this Deep learning task, **MobileNet** model was used to achieve **94% accuracy.**

EDUCATION

June 2015 – June 2019

Bachelor of Technology in Computer Science & Engineering

Raj Kumar Goel Institute of Technology, Ghaziabad

Percentage: 71.7 %

April 2014 – April 2015

STANDARD XII / H.S.C. C.B.S.E. - Computer Science Major

Dayawati Modi Public School, Modinagar

Percentage: 89.4 %

April 2012 – April 2013

SSC C.B.S.E.

Chhaya Public School, Modinagar

CGPA: 9.2

LANGUAGES

Hindi, English

STRENGTHS

Team Player, Quick learner, Flexibility, Adaptability, Goal oriented

HOBBIES

Gaming, Sports, Hackathons, Competitive Programming, Reading Books, Travelling, Listening Music