ABHISHEK KUMAR DUBEY

Bangalore, India

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Abhiyantaabhishek1@gmail.com

ABOUT ME

Deep Learning professional with 8 years of extensive experience in Model Training and Deployment .

- Experienced in the field of ADAS and Medical.
- Expert in Algorithms, Data structure and Embedded system software development

SKILLS & PROFICIENCIES

- **Deep Learning Frameworks and tools :**

  TensorFlow | Keras | Pytorch | Scikit-Learn | Pandas | Numpy | Matplotlib

- **Deep Learning Networks :**

  UNet | ResNet | DenseNet | YoloV3 | EfficientNet KNN | K-means | Naive Bayes Classifier | SVM | Linear and Logistic Regression | Decision trees | Random forest | Markov chain | Bellman Optimality | Deep Reinforcement learning | LSTM | GRU | Transformer | BERT | VGG19 | MobileNet | DenseNet | RCNN |Faster-RCNN | LaneNet | Generative adversarial network (GAN) | Model Pruning and quantization etc.

- **Algorithms and Data Structures :**

  Tree and graph theory | Divide and Conquer | Dynamic Programing | Searching/Sorting Algorithms | Back tracking | Greedy technique

- **Programming Languages:**

  C++ | Python | MATLAB | C

- **ADAS Specifications And Tools:**

  AUTOSAR | UDS 14229 | ISO 26262 | ASPICE | IBM Rational DOORS | CANalyzer | CANoe | GIT | MKS Integrity Client | AGILE | ADTF |

- **Embedded System:**

  ARM V8 | ATMEGA 32 TRACE 32 | RTOS | OSEK | LINUX | CAN | UART | I2C | SPI | ARDUINO UNO | RASPBERRY PI |

WORK HISTORY

Senior Data Scientist
Bosch Global Software Technologies
March 2022 to Present(Bangalore-India)

Project : Pedestrian Detection:

Responsibilities :

- *Research paper exploration to create an optimal DL model.*
- *Occluded pedestrian detection using technique such as guided attention ,deformable attention, body-part attention etc.*
- *Center and scale prediction(CSP).*
- *Fast focal detection network*
- *Network quantization such as pruning, knowledge distillation etc.*

Senior Data Scientist
General Electric
March 2019 to Present(Bangalore-India)

Project 1: Driver health monitoring system -AD:

Project Description: The system is capable of driver state monitoring in real time using dashboard camera ,contactless ECG attached on to the driver seat ,and other monitoring sensors on the steering wheel

Responsibilities :

- *Create DL model architecture which efficiently uses the data from the ECG sensor to create a general health prediction model .*
- *New DL model based on Mobile-Net which uses images from dash board camera to monitor drowsiness and alertness of the driver.*
- *Used Tensor flow and python in development phase.*

Project 2: DL Algorithm for improving diagnostics capabilities of medical Imaging:

Responsibilities :

- *Studied and experimented on various research papers in order to create an optimal DL model for improving the body contour, increase the sharpness of edge, and improve the signal to noise ratio of the image.*
- *Used Convex optimization method ADMM (Alternating Direction Methods of Multipliers) , and Deep learning algorithm(U-net) in coordination with OSEM (Ordered subset expectation Maximization)*
- *Used Pytorch and python in development phase, and TensorFlow serving in deployment phase*

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Nationality-Indian
Gender-Male

EDUCATIONAL BACKGROUND

Gandhi Institute of Engineering and Technology
Gunupur, Rayagada, Odisha -India, India
BACHELOR OF TECHNOLOGY *in Electrical And Electronics Engineering, 2010-2014*
CGPA : 8.5

INTERMEDIATE – + 2 High school
2007 – 2009 – Godda, India
Marks: 60%

MATRICULATION-Jnajatiya school
2006 – 2007 – Godda, India
Marks: 78.6%

HONORS AND AWARDS

- **Impact award – GE Healthcare**
  For developing DL Algo to improve the diagnostic capability of the medical image
- **Heart-Beat Award – GE Healthcare**
  For Excellent project contribution
- **Best Developer Award – BOSCH**
  For Exceptional performance

CERTIFICATIONS

- **DEEP LEARNING SPECIALIZATION – Coursera**
  https://www.coursera.org/account/accomplishments/specialization/certificate/FK9HTCNHZMDL
  24 November 2018 – 24 March 2019
- **ADVANCE MACHINE LEARNIG NANO DEGREE – Udacity**
  https://printer.udacity.com/v2/certificate/FXYALUHC/download
  17 March 2018 – 17 August 2018

HOBBY

ADAS

https://adsystemsolutions.com/

WORK HISTORY

Project 3: DL Algorithm for reducing the noise from low dose medical image

Responsibilities :

- *Studied and explored various research papers to find an optimal DL algorithm which can remove noise from low dose positron emission tomography (PET).*
- *The model was tuned and optimized to achieve high accuracy with least parameters.*

Senior Software Engineer
Robert Bosch Engineering and Business Solutions Pvt Ltd
September 2015 to March 2019 (Bangalore, India)

Project 1: License Plate Recognition

Responsibilities :

- *Model selection and tuning.*
- *Used YOLO algorithm for the localization of the license plate on the image .*
- *Developed OCR to read the character present on the license plate.*
- *The model was tuned and optimized to achieve high accuracy with least parameters.*

Project 2: Road sign recognition:

- *YOLO used to detect and localize the road signs.*
- *K-means used to create the anchor box.*
- *The cropped image was sent to dashboard system.*
- *Used TensorFlow in development phase.*

Project 3: ADAS Lateral dynamic support system :

- *Developed driver assistance function Lane Departure Warning (LDW) which provides warning to the driver during unintentional lane departure.*
- *Implemented comfort function Lane keeping support (LKS) which helps driver to maintain the vehicle in the center of the lane.*

Project 4 : Autosar Diagnostic development :

- *Involved in Requirement Engineering, Deviation analysis.*
- *Developed diagnostic requirement for various OEMS which involved development of DCM, UDS14229, Error handling.*
- *Variant Handling.*

Design Engineer
AVIOHELITRONICS INFOSYSTEMS PVT. LTD.
August 2014 to September 2015(Bangalore, India)

Project: Military appliance- Advance Embedded system for military application.

- *Development of UART protocol at hardware level.*
- *Development of Military communication protocol, MIL-STD-1553b.*
- *Advance Encryption Standard (AES) implementation for secure transmission.*