

MADHAV AGARWAL

OBJECTIVE

To work with a dynamic organization for developing socially relevant products using Computer Vision and Artificial Intelligence.

EDUCATION

MS by Research, Computer Science and Engineering, 2020 - Present
International Institute of Information Technology, Hyderabad
CGPA: **9.17**

Bachelor of Technology (Hons.), Information Technology, 2014-2018
Dr. A.P.J. Abdul Kalam Technical University, Lucknow
Ajay Kumar Garg Engineering College, Ghaziabad
Percentage: **76.00%**

All India Senior School Certificate Examination, 2013
R.R.K. Senior Secondary School, Chandausi (CBSE)
Percentage: **88.00%**

WORK HISTORY

Research Fellow at International Institute of Information Technology, Hyderabad
Computer Vision | Deep Learning | Face Reenactment | Document Understanding
Nov 2019 – Present

Machine Learning Consultant at GuiseAI
Computer Vision | Deep Learning | Model Optimization | Solution on Edge Devices
Jan 2022 – June 2022

Senior Data Scientist at CAW Studios
Computer Vision | Deep Learning | Document Understanding
Dec 2019 – Sept 2020

Data Scientist at Innefu Labs Pvt. Ltd.
Computer Vision | Deep Learning | Smart Security and Surveillance Solution
Jul 2018 - Sept 2019

Data Scientist at Tidyquant Pvt. Ltd.
Predictive analytics using machine learning
Jan 2018 - April 2018

Machine Learning Intern at HR Real Value
Prediction of house prices and valuation of real estate using Machine Learning models.
June 2017- July 2017

Data Analyst Intern at GoHelper
Mapping vendors with potential customers based on geographic and revenue models.
May 2016 – July 2016

SKILLS

Programming Languages: Python, C, C++ & Core Java

Data Science Technologies: Deep Learning, Machine Learning & Neural Networks

Deep Learning Framework: Keras, TensorFlow, PyTorch

ML Libraries : OpenCV, Numpy, Pandas, Scipy, Matplotlib, Numba and others

Operating System : Linux, Windows

Object Detection and Tracking

Trained various models to detect and track objects like Weapon, Person, Face, Helmet, Shoes, Safety Harness using our custom datasets in various different projects.

Models Used: Yolo, MobileNet, DeepSort, Kalman Tracker, IOU

Pedestrian Attribute Recognition and Classification

Identify the attributes of person like age, gender, clothes etc. and use them for classification.

Models Used : NASNet, ResNet-50, Inception-v2

INDUSTRIAL PROJECTS

Documents and Invoice Understanding

Extract information from invoices, bank statements, receipts etc. using combination of NLP and Computer Vision based techniques

Models Used: BERT, LayoutLM, Tesseract

Satellite Images

Detection and classification of ships, submarines using real time satellite images.

Models Used : R2CNN Faster-RCNN

Smart Security and Surveillance Solution

Developed various modules such as: Trespassing Detection, Person Count, Abandon Objects, Group Formation, Heat-Map Generation etc.

Audio-Visual Face Reenactment

Winter Conference on Applications of Computer Vision (WACV), 2023.

Authors: Madhav Agarwal, Rudrabha Mukhopadhyay, Vinay Namboodiri & C. V. Jawahar.

RESEARCH

CDeC-Net: Composite Deformable Cascade Network for Table Detection in Document Images

25th International Conference on Pattern Recognition (ICPR), 2020. (Oral)

Authors: Madhav Agarwal, Ajoy Mondal & C. V. Jawahar

ACHIEVEMENTS AND EXTRACURRICULAR ACTIVITIES

- Served as a **Reviewer** for 26th International Conference on Pattern Recognition (ICPR).
- Received **Graduate Scholarship** from IIIT-Hyderabad to cover full tuition fee of MS degree.
- Member of **Big Data Centre of Excellence**, R&D Lab of AKGEC, for three years (2015-2018).
Student Head Coordinator (2017-18) for dedicated work and contribution in several projects at lab.
- Won **1st Prize** in **Big War** event of **BigDataThon'17** (24 Hours project making competition on Big Data technologies) organized by ABESIT, Ghaziabad (April 2017).
- Successfully organized 12 Hrs. **workshops** on "**Machine Learning and Neural Networks**" (Feb 2018) and "**Data Science**" (March 2017) as a **Mentor**.
- Took part in **World's Biggest Hackathon**, Smart India Hackathon (Software Edition) at Nagpur and Rajasthan Digifest at Jaipur.
- NPTEL certified in Python with an **ELITE** certificate.
- Secure **800/800** in National Programming Aptitude Test 2017 by NPTEL.
- Part of College Band, Media Team and Mental Health Group.
- Part of organizing teams of Tech Fest, Cultural Fest and Blood Donation Camp.
- School **Topper** in **Computer Science**, batch of 2013.