

MADHAV AGARWAL

OBJECTIVE	To work with a dynamic organization for developing socially relevant products using Computer Vision and Artificial Intelligence.
EDUCATION	<p>MS by Research, Computer Science and Engineering, 2020 - Present International Institute of Information Technology, Hyderabad CGPA: 9.17</p> <p>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%</p> <p>All India Senior School Certificate Examination, 2013 R.R.K. Senior Secondary School, Chandausi (CBSE) Percentage: 88.00%</p>
WORK HISTORY	<p>Research Fellow at International Institute of Information Technology, Hyderabad Computer Vision Deep Learning Face Reenactment Document Understanding Nov 2019 – Present</p> <p>Machine Learning Consultant at GuiseAI Computer Vision Deep Learning Model Optimization Solution on Edge Devices Jan 2022 – June 2022</p> <p>Senior Data Scientist at CAW Studios Computer Vision Deep Learning Document Understanding Dec 2019 – Sept 2020</p> <p>Data Scientist at Innefu Labs Pvt. Ltd. Computer Vision Deep Learning Smart Security and Surveillance Solution Jul 2018 - Sept 2019</p> <p>Data Scientist at Tidyquant Pvt. Ltd. Predictive analytics using machine learning Jan 2018 - April 2018</p> <p>Machine Learning Intern at HR Real Value Prediction of house prices and valuation of real estate using Machine Learning models. June 2017- July 2017</p> <p>Data Analyst Intern at GoHelper Mapping vendors with potential customers based on geographic and revenue models. May 2016 – July 2016</p>
SKILLS	<p>Programming Languages: Python, C and C++</p> <p>Deep Learning Technologies: CNN, RNN, LSTM, GAN, Transformers, NeRF</p> <p>Deep Learning Framework: PyTorch, Keras, TensorFlow</p> <p>ML Libraries : OpenCV, Numpy, Pandas, Scipy, Matplotlib, Numba and others</p> <p>Operating System : Linux, Windows</p>

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**.
- Coordinator in **6th Summer School of AI** (2022) organized by IIIT-Hyderabad.
- 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 Tech Fest, Cultural Fest and Blood Donation Camp organizing teams.
- School **Topper** in **Computer Science**, batch of 2013.