Abhinav Dadhich

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Summary

3+ years experience of *Deep Learning R&D* in various domains like manufacturing, robotics, retail etc. Have extensive experience on developing solutions with Computer Vision and Machine Learning.

Education

- 2013–2015 **M. Eng. Information Science**, *Nara Institute of Science and Technology*, Nara, Japan.
- 2009–2013 **B. Tech. Electrical Engineering**, *Indian Institute of Technology*, Jodhpur, India.

Professional Experience

- Jul'19-Curr **Senior Data Scientist**, *Abeja Pvt. Ltd.*, Singapore.
  I am **developing PoC solutions for various industries based on Deep Learning**.I have developed state-of-the-art models for **Image Classification, Object Detection, Video Classification, Pose Estimation, Face Recognition etc.** Also, I provide strategic advice on effective implementation of deep learning solutions in industrial setting. I am also providing **learning sessions on Data Science and Deep Learning for business members**.
- Aug'16-June'19 **Researcher**, *Abeja Inc.*, Tokyo, Japan.
  Abeja is a B2B *Platform as a Service* company that provides AI solutions across several industries. Researched and Developed **end-to-end pipeline for classification and object detection** using state-of-the-art models for .
- Oct'15-May'16 **Robot Navigation Intern**, *Rapyuta Robotics*, Tokyo, Japan.
  Rapyuta Robotics is developing cloud platform for robots such as drones for easier autonomous deployments. I **developed and extended state-of-art algorithms for Cloud based RGBD SLAM**. In a team of 4, conducted weekly live demos for potential clients on aerial vehicle obstacle avoidance.

Technical Skills

- **Programming Languages:** Python(Proficient), C++(Prior Experience), LaTeX
- **Libraries & Tools:** PyTorch(Proficient), Tensorflow(Prior Experience), OpenCV(Proficient), Docker, ROS, TensorRT, Scikit-Learn, Pandas, Jupyter, Flask, RestAPI etc.
- **Hardware & Cloud Skills:** Google Cloud Platform, Jetson series, Raspberry PI etc.

Publications

- 2018 **Practical Computer Vision**, *Book, Packt Publishing*.
  Authored a book on Computer Vision for undergraduate students who would like to start their approach with hands-on on basic algorithms. It consists of chapters ranging from simple image processing to deep learning based object detection and follows OpenCV, Keras and Tensorflow as development environment.

Projects

- **Deep Learning for Edge Deployments**: Trained and benchmarked various object detection models(SSD, Faster RCNN) with **TF Object Detection API** for surface scratch detection. Ported it on Jetson TX2 device with performance improvements using **tensorrt**. Showcased solution as demo to various potential clients.
- **Development of Vision Model for Surface Anomaly Detection**: Developed Computer Vision model for detection of **surface anomalies** such as blob, scratch etc. for a large global corporate client. Created effective solution using both image filters as well as deep learning with less data availability.
- **Serverless Deployment of Prediction API using GCP:** Created serverless deployment using Google Cloud Function to predict top category from image. Code is available at: https://github.com/ResByte/torch-gcp-fn
- **Python Lib : imfeatures** Created minimal python package to extract deep learning features from a wide variety of pretrained models using Pytorch. This can be installed via pip and easily extensible. Code is available at : https://github.com/ResByte/imfeatures

Graduate Coursework

Computer Vision | Artificial Intelligence | Robotics | Computational Neuroscience | System Design