Manit Baser

B.E. (Hons.) Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani (2017-2021)
CGPA: 8.09

manitb06@gmail.com

+91 8826760570

linkedin.com/in/manit-baser

github.com/manitbaser

SKILLS

Django REST | Flask | Backend Development | Machine Learning | Python | C++ | Deep Learning | Data Science | Computer Vision | Image Processing | Natural Language Processing

ELECTIVES

- Discrete Structures in Computer Science
- Object Oriented Programming
- Data Structures and Algorithms
- Operating Systems
- Digital Design
- Optimization
- Control Systems
- Probability and Statistics
- Neural Networks and Fuzzy Logic
- Microprocessors and Interface

WORK EXPERIENCE

Software Development Intern
Draup

07/2020 - Present — *Bangalore*

Tasks

- Developed various features for the Talent platform in QA using Django, REST APIs, PostgreSQL and Git.
- Modified the existing APIs in QA platform and reduced the DB hit frequency to optimise data retrieval.
- Optimised the imports and eliminated the circular dependencies in the pipeline.

Deep Learning Research Intern
CSIR-CEERI (Central Electronics Engineering Research Institute)

01/2020 - 05/2020 — *Pilani*

Tasks

- Project taken under senior scientist Dr. Dhiraj Sangwan.
- Project based on Automatic Threat Detection in Baggage Security Imagery using Deep Learning Models.
- Paper published on the undertaken project, briefed under Publications and Projects section.

Software Development Intern
Sun Mobility Pvt Ltd

05/2019 - 07/2019 — *Bangalore*

Tasks

- Backend development of Flask-based SmartLine applications and hosting them on Apache server.
- Development of a QR based login system for SmartLine applications for faster access.
- Development of an algorithm on anomaly detection in the live data transmitted by the smart batteries.

PUBLICATIONS AND PROJECTS

Real-Time Foreground Segmentation for Video Sequences with Dynamic Background

- Accepted in IEEE INDICON 2020.
- Designed a computationally efficient algorithm for extracting the foreground at the pixel level.
- Designed for either types of background, static and dynamic in real-time.
- The F1-score achieved on the dataset of changedetection.net reach an average of 82%.

Automatic Threat Detection in Baggage Security Imagery using Deep Learning Models

- Accepted in IEEE ICIIS 2020.
- Automate the airport baggage security to detect guns, knives and other dangerous objects.
- Developed Faster RCNN, YOLOv3, SSD and RetinaNet models on single and multi-channelled datasets.
- The best result was obtained on Faster-RCNN (ResNet50) with mAP 0.966 for GDXray and 0.845 for SIXray.

Solving for Voice Interactions in Indian Houses and Neighbourhoods (04/2020 - 07/2020)

- Developed a real-time speech enhancement and separation system using LSTM networks to separate concurrent speakers.
- Developed a novel GMM which uses MFCC features and their deltas to identify the primary speaker in a noisy environment.
- Submitted it as our speech processing solution in Flipkart Grid 2.0 Grand Finale.

CoviFight (03/2020 - 06/2020)

- A three-tier contact tracing solution to trace and contain the COVID-19 spread.
- Alerts users about their chances of catching the virus by advanced contact tracing methodology.
- Generates maps with hotspots for what places have virus traces. Regulates selective lockdown for virus containment.

ACHIEVEMENTS

National Finalists | Flipkart GRiD 2.0

Secured a position in the top 3 teams in Noise Detection & Cancellation track and top 9 teams in the Grand Finale with more than 22,000 participants.

Global Challenge Winners | #EUvsVirus | European Commission | Team CoviFight

Secured second position in the Real-time Communication and Prevention challenge. Organised by the European Innovation Council, with over 9000 participants and 2000 teams. The META Group awarded us with award money for our solution.

Global Finalists | The Global Hack | Garage48 | Team CoviFight

Secured a position in the top 6 teams in the Crisis Response Track. Aimed to develop ideas to face the COVID- 19 crisis, with over 6000 participants from 100 countries.