NIRAV KISHOR JAIN [MY WEBSITE]

niravjain1709@gmail.com github.com/Nirav-1999 linkedin.com/in/niravjain1709 9967892275

Education

Dwarkadas J. Sanghvi College of Engineering, Mumbai **2017 – 2021**
Bachelor of Engineering, Computer Engineering **CGPA: 9.19/10**

Internship Experience

Deep Learning Research Intern, Cerelabs, Mumbai, India **June 2019 - July 2019**

- Worked on table detection and line item (cell) detection from scanned documents having statistical tables.
- Implemented, trained and tuned Faster-RCNN and PSE-Net models to accomplish the same.
- Tuned the Faster-RCNN model to achieve a final accuracy of 87% from an initial accuracy of 65% and achieved an accuracy of 84% in row and column detection using PSE-NET.

Software Engineering Intern, JP Morgan & Chase, Bangalore, India **June 2020 – July 2020**

- Worked on a website for an NGO using Java Spring Boot and ReactJs to facilitate efficient event organization.
- The platform provided a scheduler, which reduced 5-6 hours of event scheduling by the NGO to a few clicks.
- Worked on JPMC's perspective software to create data visualization for dynamic stock data with breakpoints for buying and selling stocks based on past data.

Research Publications

Conditional GAN with One-Dimensional Self-Attention for Speech Synthesis, Springer, Paper
Status: Accepted in the review process for ICSCIS conference, PDF.

Spatial Image Steganalysis using Transfer Learning Approach on Embedded JPEG Images, Springer, Paper
Status: Accepted in the review process for ICTCS conference, PDF.

Application of Deep Learning in Counting WBCs, RBCs And Blood Platelets Using Faster Region-based Convolutional Neural Network, Taylor & Francis, Chapter
Status: Accepted for publishing, PDF.

Projects

3DFace – Implemented a conditional GAN with a Markovian discriminator and a U-Net based generator to generate 3d point clouds from 2d face images. The generator was trained using a weighted L1 loss and adversarial loss on the AFLW2000-3D dataset. The point clouds were generated using 3DDFA on the dataset. The generator had a final loss of 0.44 which generated pretty good results.

Autonomous Underwater Vehicle (AUV) – Built an AUV that can successfully maneuver underwater for the Singapore Autonomous Underwater Vehicle Challenge. Calibrated the sensors like barometer and gyrometer and programmed a raspberry-pi to control the thrusters based on the information received from these sensors.

Drone Automation – Automated a drone to detect different colored LED's using OpenCV and Robot Operating System (ROS) and programmed a simulation for the same using Virtual Robot Experimentation Platform (V-REP) during e-yantra, a robotics competition at IIT-Bombay. Used the WhyCon localization system during the project to get the drone's position, did the required PID tuning for the stability of the drone, and made the circuits for the competition environment.

FarmEasy – A platform that helps farmers by predicting rainfall using an LSTM network for time-series prediction and suggesting crops based on factors like region, soil, and the amount of predicted rainfall. The platform was built using Python-Django and ReactJs and had functionalities like a chatbot and a Web RTC- based video calling system.

ScanIt – A document scanner made using Python-Django with image processing techniques like perspective transform, thresholding, edge detection and contour approximation.

Melodify - A web app with Python-Django backend and HTML, CSS, Bootstrap, and JavaScript frontend to listen, share, and watch music videos. Other features include a chat room and music search using web scraping and multi-threading.

Awards and Other Activities

- Won 2nd prize in Codeshashtra 5.0, a 24-hour hackathon.
- Reached the semi-finals of e-yantra robotics competition by IIT-Bombay.
- Winner of college qualifier round for the Smart India Hackathon.
- Mentor at DJ-Unicode, a committee which helps sophomores develop products for the college.
- Co-events head of DJ-ACM and organized events like Internship fair, hackathon, workshops, industrial visit etc.

Technical Skills

Languages – C, C++, Java, Python, Octave, JavaScript, shell script

Web Development – Django, Spring Boot, ReactJS, HTML, CSS, Bootstrap, MySQL, MongoDB, NodeJS

Machine Learning – Tensorflow, Keras, Pytorch, ScikitLearn, NumPy, Pandas, Matplotlib, Seaborn, OpenCV, DialogFlow