

EDUCATION

- **Osmania University – Vasavi College of Engineering** Hyderabad, India
Bachelor of Engineering in Information Technology; Cumulative Average: 85.61/100 *Oct. 2013 – June 2017*

WORK EXPERIENCE

- **Linoy Technologies Pvt Ltd.** Hyderabad, India
Software Developer II *Nov. 2019 – Present*
 - **Vehicle Width:** Boundary tracing of the vehicle edges by dividing the bounding box into blocks to get the precise width.
 - **Color Profile:** Built dominant colors profile for vehicles to handle missed detections and mismatched IDs
 - **Driver Drowsiness Detection:** Implemented an algorithm to detect driver drowsiness and alert based on eye openness and yawn frequency.
 - **Transfer Learning Toolkit:** Added base to perform TensorRT inference on models trained using transfer learning toolkit which significantly improved the throughput.
 - **Object Monitoring:** Efficient way to handle all the bounding boxes in the frame. Withholding false positives, retaining false negatives for better forward collision warning.
 - **Mean-Difference Tracker:** Implemented a custom patch based tracker to track faces using dynamic grid mean and difference of neighboring pixels between successive frames.
 - **Face Anonymization Tool:** Developed framework to blur faces (using ResNet and Dual Shot Face Detector) to ensure data compliance.
 - **Trespass Alert Application:** Design and Development of proof-of-concept for trespass alert application on multiple cameras setup, parsing camera sources from JSON files.

Oct. 2017 - Nov. 2019
 - **Object Detection:** Trained and tested multiple deep learning object detection models. Responsible for comparing speed and accuracy for selecting a detection architecture that achieves the right balance.
 - **Tracking:** Studied different Object Tracking methods and implemented the Optical Flow method to track the movement of objects.
 - **Multi-Camera Setup:** Developed “Detect and Track” module that handles detection and tracking by doing a round-robin on frames retrieved from multiple live feed cameras.
 - **TensorRT Inference:** Responsible for training the custom dataset and deploying the model on the embedded Jetson platforms - NVIDIA Jetson TX2, AGX Xavier for accelerated inference.
 - **Lane Departure Warning Sytem:** Developed the base for multi-lane detection and departure warning system that alerts the driver if the vehicle drifts out of its lane without a turn signal.
 - **Speed Limit Indicator:** Trained a speed signs classification model for speed limit recognition on the speed sign results forwarded by the detection model.
 - **Object ID Manager:** Developed a method to assign and maintain unique ID for the objects in the frame by considering detection and tracking results.
 - **Direction Estimation:** Implemented an algorithm to estimate the direction of motion of the objects of interest based on the average movement of the features and the bounding box.
 - **Data - Util Tools:** Generated 2 million image dataset for object detection and developed a tool to draw, generate annotations. Implemented utilities to update, verify annotations, convert annotations from one format to another and write images to storage formats.
- **Adobe Systems India Pvt. Ltd.** Bengaluru, India
Product Intern *May 2017 – July 2017*
 - **DCX File System:** Adobe Stock search engine was not updated to perform search operations on DCX files. DCX is a new file format system for upcoming Adobe Design products; It was imperative to enable Adobe Stock to perform search and render results on DCX Files also.
 - **File Retrieval:** Worked on the project - “Content-Based DCX File Retrieval System” to generate tags based on the content (Text and Images) present in each file so that a search operation can be performed to render appropriate DCX Files.

- **Document Tagging:** Extracted text, images from the file, and generated keywords from images by performing inference using an attention-based neural image caption generator. Combining the captions generated and text fields parsed followed by filtering out the stop-words, the resultant words are mapped to the file.

- **Mission Research and Development**

Hyderabad, India

Summer Trainee

May 2016 – June 2016

- **Systems Development Track:** Development of file systems, compilers, network simulators, and advanced data structures.
- **Application Development Track:** Development of web applications by learning new frameworks like Django, Backbone JS, and building an application that complied by Representational state transfer (REST) principles.
- **EFT:** Participated in special EFT (Emotional Freedom Techniques) classes conducted by Mr. Kalyan Chakravarthi Sonnathi (one of the two certified 'Emotrance' practitioners in India) which help us in producing effective output by managing stress levels in personal and professional lives.

PROJECTS

- **Optical Character Recognition - Telugu:** Developed and implemented a pattern classification system for Telugu handwritten characters using custom dataset.
- **Post Quote for Twitter:** Posts a new quote as an image on Twitter every time on its execution. Fetches a quote in string format from API, converts it to image using another API and posts it on Twitter based on the credentials provided.
- **Web Applications:** Developed Blog, TO DO List, Classroom Management Web Applications. Deployed the Blog application on Heroku.
- **Chat Application:** Implemented client-server chat application using sockets.
- **Text Editor:** Developed text editor emulating the windows version of notepad.
- **Record Management System:** Implemented file-based record management system with Create, Read, Update and Delete operations.

SKILLS

- **Computer Science classes:** Data Structures, Design and Analysis of Algorithms, Database Management Systems, Operating Systems, Artificial Intelligence, Data Communications
- **Math Classes:** Discrete Mathematics, Probability and Random Process, Mathematics I - Matrix Theory, Differential Calculus, Vector Calculus, Mathematics II - Differential Equations
- **MOOCs:** Machine Learning, Mathematical Thinking in Computer Science Specialization (Coursera), CSE455: Computer Vision - University of Washington
- **Computer skills:** C++, OpenCV, Python, C, Java, Django, MySQL, Octave, TensorFlow, PyTorch

HONORS

- First in Online Coding Contest, Department of Information Technology
- Third in Seminar Presentation Activity - Application of Maths in Various Fields
- Certificate of Merit for Academic Performance, 2016
- Commendation Certificate for Attendance, 2015 and 2016

CERTIFICATIONS

- Machine Learning by Stanford University on Coursera - December 2016
- Complete Java SE 8 Developer Bootcamp on Udemy - September 2017
- MongoDB 3.0 on Udemy - September 2017
- Security Awareness Training on Udemy - September 2017
- Mathematical Thinking in Computer Science by University of California San Diego & National Research University Higher School of Economics on Coursera - June 2019

POSITIONS HELD

- Overall Event Coordinator, Technical Fest, Acumen IT – 2017
- Campus Ambassador for Twenty19.com, May 2014 – August 2015
- Organizer of Formal Event (Paper Presentation), Technical Fest, Acumen IT – 2015
- Organizer of Technical Event (Orchestrate IT), Technical Fest, Acumen IT – 2014