CHANDU BOBBILI

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EDUCATION

International Institute of Information Technology	Hyderabad
Bachelor of Technology in Computer Science and Engineering	*July 2016 - July 2020*

EXPERIENCE

Software Engineer — August 2020 - Present
Reliance Jio — *Navi Mumbai, India*

- Working on a machine learning product that can monitor movement at perimeter of a site or a location for suspicious intrusions and issue alerts in real time.
- Researched on state of the art models for object detection like yolov4, yolov4CSP, NFnet and scaledyolov4 as a part of this project.
- Synthesized new custom datasets and trained models with those custom datasets to detect objects at far distances for different profiles(sitting, crawling, crouching, running) with high precision and low false positive rate.
- Developed a tracking algorithm in python to track the intruder's movements using detections that are captured over frames. This tracking module requires less resources and can track movements with just using detected bounding boxes and object confidence scores, which makes it light-weight and is integrated with existing detecting module without extra hardware.
- The product is deployed over 200 streams which can throughput of 10 FPS scaling 16 streams per T4 server with a false positive rate of less than 1% and 98% true positive rate for detections of objects at different distances.
- Tech stack used: Python, Pytorch, C++, Flask, Socketio, Numba, Tensorrt and Deepstream.

Software Engineering Intern — May 2019 - July 2019
Plivo Communications Limited, Bangalore — *Internship*

- Worked on Session Initiation Protocol (SIP) which is a signaling protocol used for initiating, maintaining, and terminating real-time sessions that include voice, video and messaging applications.
- Pcap Analyser - Implemented a REST API for analysing pcap files (contain packet data that has been pulled from a network scan) using network protocol analysers, tshark and sngrep.
- Product is developed to get the statistics for lakhs of pcap files which are generated daily, which determine the cause of fraudulent calls, network dropping, price recalculation.

Android App developer — August 2017 - December 2017
Washapp, Hyderabad — *Remote*

- Developed an Android app for the startup WashApp which supports on-demand laundry service.
- The app allows the users to place orders for laundry services and track the order.
- Developed the product using Java, Android Studio which can also track the location of the delivery van and can make online payments.

PROJECT EXPERIENCE

Virtual Explorative Analysis — Cognitive Science Research

- Collected data of people's exploration behaviour in Virtual environments using Unity (windows application to log exploration data in simulated virtual environments).
- Conducted experiments with more than 500 people to collect large enough data to make appropriate correlations.
- Analysed the exploration behaviour (familiarization, guidance, visual clues) and finding patterns and correlations over different parameters (age, gender, right/left handedness) which can help in improving the user experience while designing simulated virtual environments.

CIFAR-10 Image Classification — Machine Learning

- Trained and tested a linear classifier using PCA, softmax and perceptron for classifying faces on a limited dataset of images.

Quiz Buildouts - Springboot, Java, MongoDB — crio.do

- Built a REST API service using MVC framework that provides questions and can assess the answers submitted.
- Designed relational database schema for the project to store the quiz data.

Extreme Tic-Tac-Toe Bot - Python
- Implemented a 4x4x4 TicTacToe Game using game theory concepts like Mini-Max, Alpha Beta Pruning and an efficient heuristic to evaluate game state.

Multiple Chat Room Communication - Java
- Created a multiple chat room environment for multiple users so they can chat and transfer files through TCP or UDP in a chat room. Used Socket Programming with the support for multi-threading.

Decaf Compiler - C++
- Designed a compiler for Decaf programming language, using tools like Flex and Bison, and LLVM as backend to execute instructions.

Short Term Projects

Linux Shell - C
- Implemented in C, shell uses syscalls to provide various features command inputting, piping, input and output redirection, signal handling, foreground and background processes.

Mini SQL Shell - Python
- Implemented a clone of MySQL system, which supports the usage of simple Select-From-Where queries, aggregate functions, logical operators, distinct operator as in SQL.

Quiz App - Ruby on Rails
- Developed an application which provides features like state restoration, various genres, leader boards, simplified UI for users, web interface for quiz masters etc.

Areas of Interest

Backend Development
Machine Learning
Android App Development

Technical Skills

Programming Languages: C, C++(STL), Java, Python, MATLAB
Web Technology: Flask, Ruby on Rails, Fastapi
Machine Learning Frameworks: Pytorch
Databases: MySQL, PostgreSQL, MongoDB
Others: Docker, Springboot, AWS

Positions of responsibility

Cultural Captain   August 2018 - August 2019
IIIT HYDERABAD
- Led Vayu house in IIIT-H (one of the cultural houses) in the academic year 2018-2019 to runner up position.

Dance Club coordinator   August 2018 - August 2019
Dance Club - IIIT-H
- Organized and participated in dance events in the academic year 2019.

Cultural POC   December 2018 - February 2019
Felicity - IIIT-H
- Organized cultural events during college fest in IIIT-H, Felicity.

Academic Achievements

Ramanujan Maths Olympiad: Secured State level and district level ranks in consecutive years from 2009 to 2013
International Maths Olympiad: Secured International 9th rank in the year 2012
JEE: Secured 2326th rank in JEE ADVANCED 2016 and 589th rank in JEE MAINS 2016

Relevant Courses

Artificial Intelligence	Operating Systems	Compilers
Database Systems	Distributed Systems	Computer Graphics
Data Structures	Algorithms	Principles of Information Security
Computer Networks	Software Analysis and Design	Statistical Methods in AI