

Arbaz Khan

Computer Engineer

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Education

B.Tech Computer Engineering

- Chotubhai Gopalbhai Patel Institute of Technology with **9.36/10 CGPA** till sem 7 **(2016-2020)**

Internships

Data science Intern *(Zujo, Surat, Gujarat, India / December 2019 – Present)*

- Optimized the data loading pipeline for training of machine learning model resulting in the 20% reduction in training time and faster prediction.
- Implimented the object tracking algorithm to track the objects in video. Minimized the prediction time of machine learning model for object searching and tracking by 25 % using this algorithm.
- Achived 17% Increase in hit rate of videos in video shaing platform, resulting in increase in average rich of videos by implimanting data-driven hybrid recommendation system using sevral deep learning models for video recommendations.
- Implemented an AI model, which allows organizations to assess the productivity of their employees more precisely using employee activity recognition.
- Developed an AI model to generate the codes in JavaScript programming language from the Natural Language statements using NLP and Machine translation. The AI is able to help full stack developers to reduce the coding time significantly.
- Worked with a Senior Data Scientist to deploy solutions into a production environment using Tensorflow serving, Tenorflow lite and Docker.

Research and Development Intern *(Goldenmace solutions, Navsari, Gujarat, India / May 2019 – June 2019)*

- My responsibility here included developing Web applications, IoT devices and working with AWS cloud services.
- Developed a web application to extract the details useful for KYC -Name, Gender, Date of Birth, Aadhar number etc., just by taking the snap of Aadhar card (Indian Identity Proof) Using OCR. Further hosted the web application as server less app on AWS so that it can easily be integrated with any other application that requires KYC details of their users. This extra feature contributes to improve user experience by eliminating need of adding details manually.
- Created prototype of Candy dispenser machine that dispenses the candy according to person's emotion, to add new attraction to existing dispensers. Used AWS services for person’s emotion recognition.

Web Development Intern *(Sparks to Ideas, Ahmedabad, Gujarat, India / May 2018)*

- Worked on web development technologies which included HTML CSS, Bootstrap, JavaScript, PHP, Jquery, AJAX. During my tenure here I worked on both frontend as well as backend of websites with a goal to deliver best UI/UX to users.

Skills

Programming languages

- C, C++, Java, JavaScript, SQL, PHP, Python.

Web Development

- HTML, CSS, AJAX, Bootstrap, Jquery, PHP, NodJS.

AWS Platform

- AWS services- Lambda, S3, API gateway, Rekognition, IoT core, Greengrass, SNS, Cognito, DynamoDB, EC2.

Data science

- Pandas, Numpy, Web scrapping, Sckit-learn, Tensorflow, Keras, Pytorch, Natural Language Processing, Tensorflow serving, Tensorflow lite, Docker.

IoT devices

- Raspberry pi, Arduino, NodeMCU, ESP-32.

Blockchain

- Truffle, Soidity, Ethereum.

Mobile Application development

- Android Studio.

Others

- Public speaking, Blog writing, Team work, leadership, Adaptive.

Projects

Automatic material handling */Web application, IoT, AWS services*

- A modern cost effective and efficient solution to solve the problem of placing right material at right place at right time in industrial assembly line using the Self guded Vehicle(SGV).
- Architected the prototype of SGV (Self Guided Vehicle) that uses the new path planning algorithm (developed using heuristic based search techniques) instead of traditional path following approach. Thus eliminating the need of guiding paths which makes the system more effective than existing solutions in terms of cost and maintenance.
- Created the triangulation algorithm using router signal strength so that SGVs can locat them selves and navigat in environment on their own.

Blockchain based Digital Identity management */Web app Blockchain*

- A platform which provides shield against identity theft, developed using Ethereum blockchain, solidity, and web3 JavaScript. It allows the user to digitize his/her identity and gives him/her the full control over who has access to his/her identity information. This platform offers a decentralized and secure solution that puts users back in control of his identity.

Object tracking*/Web app Blockchain*

- An algorithm developed using the hash data structure to track the objects in video i.e. assigning unique id to each object in the video. Algorithm is 25% faster than state of the art tracking algorithm “Deep sort”.

Awards and Activities

2nd runner up in Sart-hack hackathon for “Water Logging Prediction” *(Technologies- Machine learning, Web application)*

- Lead the team of 4 members in sart-hack competition where we trained a model to predict the severity of the water logging in different areas of Surat city based on rain forecast using the logistic regression. Model achieved 94% accuracy on the test set of historic data. We were rewarded as 2nd runner up in this district level hackathon for our work in water logging prediction for Surat city where 75 teams participated.

Honoured with Badge from SAS for “Analysis and prediction of depression among Students” *(Technologies- Machine learning)*

- Performed detail analysis of the depression among the students based on the parameters like gender, peer pressure, anxiety, past history etc., using data visualization and modeling to help the relevant health authorities to find out the reasons of the depression among students.
- Based on this analysis, selected some parameters to train decision tree with random forest classifier to predict the depression. Decision tree achieved 96% accuracy on test set.
- I was honoured with badge from the SAS for skills in Analytical Problem Solving, Data Science, Programming and Public speaking for the work in this project at DataQuezt competition where around 80 teams participated from all over India.

Event coordinator in University Techfest (state level)

- Lead the team of 6 coordinators for the game called “NumberStorm” in which 35 teams participated in University techfest.