

Valay Shah

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EDUCATION

New York University (Courant School of Mathematics),
Master of Science, Computer Science, GPA: 3.75

Jan 2021 - Dec 2022

CourseWork: Fundamental Algorithms, Machine Learning, Computer Vision, Devops and Agile Methodologies et al.

Gujarat Technological University (L.D College of Engineering),

Aug 2016 - Jul 2020

Bachelor of Engineering, Information Technology, CPI: 9.23/10

Coursework: Software Engineering, Big Data Analytics(cloud computing), Database Systems, Web Technology et al.

SKILLS

- Programming Languages: **Python**, **C++**, Java, C, C#, Javascript, HTML, CSS
- Database: **SQL**, Oracle, MySQL, MongoDB, AWS
- Other Technologies: Latex, GIT, Bootstrap, **Django**, Tensorflow, Keras, Pytorch, Docker, Node.js, React, Linux
- **Certified Professional:** Oracle Certified Java Professional (OCJP-SE6), Microsoft Technology Associate C#, J2EE (Java Server Pages, Java Servlets) Web Component Developer from Oracle

EXPERIENCE

Research Assistant, Ranganath Lab

May 2021 - Present

- Reprogram and implement Machine Learning Interpretability Models (*Real-X and Eval-X*). Real-X tries to predict the least number of features needed and Eval-X tries to evaluate the model if the features selected are correct or not
- Train FastShap model on a text classification task and preprocessed the MIMIC - 3 dataset. The model evaluation time is just **0.04 seconds** which is exponentially faster compared to other state of the art methods

AI Intern, Military College of Telecommunication and Engineering

Dec 2019 - May 2020

- Worked on project entitled "*Change Detection In Satellite Images*" which was based on PCA, eigen values and then applying k-means clustering for changes in the pixel values
- **Deployed** in the Indian Military, the project "*Object detection using Yolo*" for customized objects only in the required area of the screen & alarm, message and email notification in case any changes in the significant number of pixels

Research Intern, Indian Space Research Organization (ISRO)

Jul 2019 - Oct 2019

- Programmed a transformed algorithm for K-means clustering to detect better and accurate clusters in Hyper and Multi spectral NDVI plant images which in turn would minimize intra cluster variance **by 10%**
- Worked on project entitled "*Temporal Angle Clustering for Unsupervised Segmentation of Multi Temporal NDVI Images*" and Dataset used was Sentinel 2 Satellite images (stacked images of different days)

Intern, A.I.M(Advertising through Intelligent Machinery)

May 2019 - Jun 2019

- Designed and deployed a website for the startup using Bootstrap, HTML and CSS. This website was then **hosted on the server** with all the functionalities working perfectly

Intern, Kody Technolabs Pvt Ltd.

Jun 2018 - Jun 2018

- Created a mini ERP project on School Management System using Angular 5, Typescript and Firebase. It included the login functionality, integrating map API for directions et al and was deployed in one of the schools of Ahmedabad

PROJECTS

Analyzing Traditional Data Augmentation and Style Randomization on Cross Domain dataset

- Analyzed the effects of different classical models in order to compare embeddings of various styles on Office-31 dataset
- Evaluated the traditional data Augmentation techniques vs the Style Randomization techniques and why style randomization technique would work based on the different data distributions

Breast Cancer Classification

- Made customized Convolutional Neural Network (CNN) models in order to classify Breast Cancer of Invasive Ductal Carcinoma (IDC) using kaggle dataset in python and achieved an accuracy of **around 90%**

E-commerce Startup Website

- Designed a website for a small startup which was based on the India's largest E-Commerce website (Flipkart) using *Django, HTML, CSS, Bootstrap and Javascript*
- Functionalities: Login page, home page, Profile page, Edit profile page, different product pages same as flipkart, shopping cart, contact us form etc

Automated Form Filling Using Facial Recognition

- Conceptualized using *Django, MongoDB and computer vision* libraries, this **software** can fill forms automatically using facial recognition with the data stored in database just like the Google Form

Online Examination System and Online Attendance System

- Programmed using Spring framework of *Java and SQL(MVC framework)*, the former generates online exams using the questions stored in the database and the later marks the attendance of a student using the OTP generated in the app for short amount of time on the college network only