Valay Shah

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EDUCATION

New York University (Courant School of Mathematics), *Jan 2021 - Dec 2022*
Master of Science, Computer Science, GPA: 3.67
CourseWork: Fundamental Algorithms, Programming Language(ML,Prolog, Scheme), Machine Learning, Operating Systems, Computer Vision, Database Systems.
Gujarat Technological University (L.D College of Engineering), *Aug 2016 - Jul 2020*
Bachelor of Engineering, Information Technology, CPI: 9.23/10

SKILLS

- **Programming Languages:** *Python, C++,* Java, C, C#
- **Database**: *SQL,* Oracle, MySQL, Mongodb
- **Other Technologies:** Latex, HTML, CSS, GIT, Bootstrap, *Django*, Flask, QGIS
- **Certified Professional:** Oracle Certified Java Professional (OCJP-SE6), Microsoft Technology Associate C#, J2EE 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 Amortized explanation models on a text classification task using MIMIC - 3 dataset.

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.
- Made "**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.
- Detected and Recognized face, and after confirming the blinking of an eye, drowsiness detection was performed and would stop if no face was detected for more than 15 seconds.

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.
- 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 a website for the startup using Bootstrap, HTML and CSS.

Intern, Kody Technolabs Pvt Ltd.   *Jun 2018 - Jun 2018*
- Created a mini ERP project on School Management System using Angular 5, Typescript, Rest API and Firebase. It included the login functionality, integrating map API's for directions and also viewing and managing the timetable.

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 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
- Made 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, 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.