



FUZZY TO CRISP

2019 Newsletter

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DIRECTOR'S DESK | DR. RUPESH VASANI

I am pleased to congratulate Computer Engineering Department for issuing first issue of Departmental eNewsletter "FUZZY TO CRISP". Huge congrats to the editorial team. A wide number of readers are welcomed by the newsletter "FUZZY TO CRISP" perspectives from the Department of Computer Engineering. The faculty's job is to develop student's talent and skills for their future. Let this be a forum for professors and students to show their creative abilities and revolutionary ideas. The outside world will come to know about the achievements and extraordinary performances of the students and faculties through this online medium. My best wishes will always be with this type of good efforts of the Computer Engineering Department.



HOD'S DESK | **DR. Vidhi Khanduja**



My best wishes to all the students and faculties for a prominent career ahead.



I am very glad that our Computer Engineering Department is releasing this issue of 'FUZZY to CRISP' as an indication of department activities. It is a technical platform to highlight the talent of scholars and experts in our department. The main asset of the department is a team of well qualified, experienced and dedicated faculties who are continuously supporting the students for their academic excellence. I heartily congratulate the team of faculty members and the students for their extensive, outstanding and creative efforts. The department also organizes regular expert lectures delivered by industrial persons, arranges workshops, Industrial visits for motivating the scholars for their further enhancements. My best wishes to all the students and faculties for a prominent career ahead.

IN THIS ISSUE

- From the desk of the Director
- From the desk of the Principal
- From the desk of the HOD
- Department Activities
- Faculty Technical Articles
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SEMINAR ON PYTHON



One-day Seminar was organized on 'Python' on 3rd Aug 2019. The session was conducted by Mr. Gopal Mavani (Sr. Developer) at SALITER.

One-day Seminar was organized on 'IoT' on 2nd Aug 2019. The session was conducted by Mr. Raj Makhijani and Mr. Vishal Makwana (IoT Developers)

SEMINAR ON IOT



SEMINAR ON ANDROID



One-day Seminar was organized on 'Android' on 11th Aug 2019. The session was held by Mr. Nisarg at SALITER



One-day Seminar was organized on 'Game Development' on 8th Aug 2019. The session was conducted by Mr. Brijesh at SALITER.



SEMINAR ON GAME DEVELOPMENT



DEPARTMENT ACTIVITY
SEMINAR/WORKSHOP ORGANISED

**SEMINAR ON AEMS
OVERSEAS**



One-day Seminar was organized on 'AEMS Overseas' on 7th Jan 2019. The session was held by Mr. Terrance Graham - Associated DEAN & Exectuive Director at CALIFORNIA STATE UNI.

One-day Seminar was organized on 'Game Development' on 29th Jan 2019. The session was conducted by Mr. Harsh Trivedi.



**SEMINAR ON CLOUD
COMPUTING**



DEPARTMENT ACTIVITY
SEMINAR/WORKSHOP ORGANISED

SEMINAR ON ADVANCE JAVA



One-day Seminar was organized on 'Advance Java' on 8th Jan 2019. The session was conducted by Mr. Jigar Thakkar - Trainer at TOPS Technologies. Session was held in SALITER.

One-day Seminar was organized on 'Griffith University' on 30th Jan 2019. The session was conducted by Mr. E.Sheldon D Wallbrown



SEMINAR ON GRIFFITH UNIVERSITY



DEPARTMENT ACTIVITY
SEMINAR/WORKSHOP ORGANISED

**SEMINAR ON CAREER IN
USA & CANADA**



One-day Seminar was organized on 'Choose your Dream of Master in USA & Canada' on 11th Aug 2019. The session was held by Mr. Chadramauli Bhatt at SALITER.

One-day Seminar was organized on 'IT and Computer Technology' on 30th Jan 2019. The session was conducted at SALITER.

**SEMINAR ON IT AND
COMPUTER TECHNOLOGY**





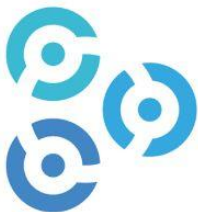
Asst. Prof. Jalpa Patel attended Seminar on Machine Learning using Python. Organised by SALITER on 28th Jan 2019.

Asst. Prof. Jalpa Patel attended Seminar on ERASMUS. Organised by SAL Education Campus on Jul 2019.



Asst. Prof. Harsha Padheriya attended Seminar on Machine Learning using Python. Organised by SALITER on 28th Jan 2019.

Asst. Prof. Jalpa Patel attended Seminar on Machine Learning using Python. Organised by SALITER on 28th Jan 2019.



Asst. Prof. Harsha Padheriya attended Seminar on ERASMUS. Organised by SAL Education Campus on Jul 2019.

Asst. Prof. Hemali Shah attended Seminar on ERASMUS. Organised by SAL Education Campus on Jul 2019.



Asst. Prof. Harsha Padheriya attended Seminar on ERASMUS. Organised by SAL Education Campus on Jul 2019.

FACULTY ACTIVITY

SEMINAR/WORKSHOP/STTP/FDP ATTENDED



Asst. Prof. Nidhi Patel attended Seminar on Machine Learning using Python. Organised by SALITER on 28th Jan 2019.

Asst. Prof. Miki Patel attended Seminar on ERASMUS. Organised by SAL Education Campus on Jul 2019.



Asst. Prof. Miki Patel attended Seminar on Intellectual property rights on 21st Oct 2019.

Asst. Prof. Mahipalsinh Zala attended Seminar on Artificial Intelligence and Machine Learning. Organised by Nirma University on 2nd Feb 2019.



Asst. Prof. Nidhi Barot attended Seminar on Game Development. Organised by Mr. Brijesh on 8th Aug 2019.

Asst. Prof. Biren Patel attended Seminar on Game Development. Organised by Mr. Brijesh on 8th Aug 2019.



Asst. Prof. Nidhi Barot attended Seminar on Python. Organised by Mr. Gopal Mavani on 3rd Aug 2019.



Asst. Prof. Pooja Mehta attended Seminar on Python. Organised by Mr. Gopal Mavani on 3rd Aug 2019.

Asst. Prof. Jeenyta Parikh attended Seminar on Python. Organised by Mr. Gopal Mavani on 3rd Aug 2019.



Asst. Prof. Nidhi Barot attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.

Asst. Prof. Neha Minocha attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Asst. Prof. Jeenyta Parikh attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.

Asst. Prof. Pooja Mehta attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Asst. Prof. Gargi Bhatt attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Dr. Vidhi Khanduja attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.

Asst. Prof. Asha Patel attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Asst. Prof. Nidhi Barot attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.

Asst. Prof. Trupti Pathrabe attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Asst. Prof. Trupti Pathrabe attended Seminar on Python Organised by Mr. Gopal Mavani on 3rd Aug 2019.

Asst. Prof. Pooja Mehta attended Seminar on IoT Organised by Mr. Raj Makhijani and Mr. Vishal Makwana on 2nd Aug 2019.



Asst. Prof. Trupti Pathrabe attended Seminar on Android Organised by Mr. Nisarg on 11th Aug 2019.

Edge Computing

Asst. Prof. Harsha Padheriya



Edge computing is a distributed computing paradigm that brings computation and data storage closer to the location where it is needed to improve response times and save bandwidth. It is a topology rather than a technology. The origins of edge computing lie in content delivery networks that were created in the late 1990s to serve web and video content from edge servers that were deployed close to users. In the early 2000s, these networks evolved to host applications and application components at the edge servers, resulting in the first commercial edge computing services that hosted applications such as dealer locators, shopping carts, real-time data aggregators, and ad insertion engines. During the early part of the 21st century, cloud computing was considered the next big thing. In cloud computing, data is uploaded to a centralised repository that may access it regardless of location. Cloud Computing began to be used in commercial devices only close to 2010. By the time it was 2020, cloud computing had become a prevalent technology. In just about a decade, cloud computing had turned from being an esoteric term to being a part of a few devices in almost everybody's house. In 2021, cloud computing is no longer among the top technology trends but rather a thing of the past. The next step after cloud computing is edge computing. It is another rising new technology in 2021 which is very similar to cloud computing, except that data is not stored in a centralised repository. Where network access might be difficult or impossible, cloud computing is challenging since you can no longer access the repository where your data is stored.

What edge computing does is transfer data closer to the location where it needs to be used. Edge computing has excellent applications in the Internet of Things devices. As far as IoT is concerned, a physical device you need to control with your smartphone should not need to access data from a centralised repository that might be thousands of kilometres away. Instead, data should stay as close to the device as possible. Edge computing allows the data to remain at the 'edge' of the cloud and the device for processing so that commands can be followed through in a smaller amount of time. Edge computing jobs have only begun to grow with IoT devices' proliferation over the past few years. As the number of these devices increases, edge computing roles are likely to become more prevalent and lucrative, placing it firmly among the top technology trends of 2021. Edge application services reduce the volumes of data that must be moved, the consequent traffic, and the distance that data must travel. That provides lower latency and reduces transmission costs. Computation offloading for real-time applications, such as facial recognition algorithms, showed considerable improvements in response times, as demonstrated in early research. Further research showed that using resource-rich machines called cloudlets near mobile users which offer services typically found in the cloud, provided improvements in execution time when some of the tasks are offloaded to the edge node. On the other hand, offloading every task may result in a slowdown due to transfer times between device and nodes, so depending on the workload, an optimal configuration can be defined.

Natural Language Processing

Prof. Sudha Patel



Natural Language Processing, or NLP, is a branch of Artificial Intelligence that allows robots to read, understand, and interpret human languages.

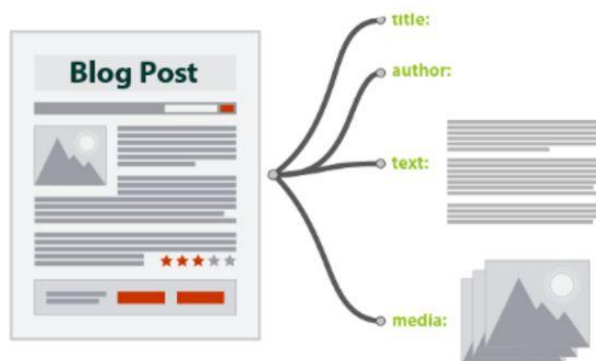
It's a field that focuses on the interface of data science with human language, and it's growing in popularity across a variety of industries. Today, NLP is thriving as a result of massive advancements in data access and computational capacity, allowing practitioners to accomplish substantial outcomes in fields such as healthcare, media, finance, and human resources, among others.

Use Cases of NLP:

In simple words, NLP refers to the automatic processing of natural human language such as speech or text, and while the notion is intriguing, the real value of this technology is found in its applications.

NLP can assist you with a wide range of activities, and the fields of application seem to be expanding on a regular basis. Consider the following examples:

- NLP allows for disease recognition and prediction using electronic health records and the patient's own voice. This skill is being investigated in a variety of medical problems, including cardiovascular disease, depression, and possibly schizophrenia. Amazon Comprehend Medical, for example, is a service that extracts disease conditions, drugs, and treatment outcomes from patient notes, clinical trial reports, and other electronic health information using natural language processing (NLP).
- An IBM researcher created a cognitive assistant that functions like a personalised search engine, learning everything about you and then reminding you of names, songs, and other things you can't remember when you need it.
- Companies like Yahoo and Google use NLP to filter and classify your emails by analysing text in emails as they pass through their systems, preventing spam from reaching your inbox.
- The MIT NLP Group developed a new algorithm to determine whether a source is accurate or politically biased, detecting whether a news source can be trusted or not, to aid in the detection of fake news.
- Amazon's Alexa and Apple's Siri are two examples of intelligent voice-driven interfaces that employ NLP to respond to vocal commands and perform things like locate a specific store, provide weather



forecasts, recommend the best route to work, and turn on the lights at home.

- Financial traders can benefit greatly by knowing what is going on and what people are talking about. NLP is being used to track news, reports, and comments regarding potential company mergers, all of which can subsequently be put into a trading algorithm to create large gains. Remember the rule of thumb: purchase the rumour, sell the news.
- NLP is also being utilised in the search and selection phases of talent recruiting, recognising potential employees' skills and spotting candidates before they go on the job market.

10 Common NLP Terms Explained for the Text Analysis Novice

In the field of NLP and Text Analysis, probably we come across some very sophisticated phrases and acronyms that are difficult to grasp, especially if you're relying on scientific definitions for a plain and simple explanation.

The terms we chose were based on terms we often find ourselves explaining to users and customers on a day to day basis:

Natural Discourse Processing (NLP) is a branch of computer science that is linked to Artificial Intelligence and Computational Linguistics that focuses on computer-human interaction and a machine's ability to interpret or mimic human language. Siri and Google Now are two examples of NLP applications.

Information Extraction is the process of extracting structured data from unstructured and/or semi-structured data sources, such as text documents or web pages.

The process of detecting and classifying components in text into specific categories, such as people's names, organisations' names, locations' names, monetary values, percentages, and so on, is known as **NER (Named Entity Recognition)**.

A corpus, also known as a corpora, is a huge collection of texts that may be used to infer and validate language rules, as well as perform statistical analysis and hypothesis testing.

Sentiment Analysis is the process of extracting subjective information from a piece of text using Natural Language Processing tools. Whether a writer is being subjective or objective, positive or negative, for example. (Opinion mining is another name for it)



Word Sense Disambiguation - The capacity to computationally discern the meaning of words in context. As part of this procedure, a third-party corpus or knowledge base, such as WordNet or Wikipedia, is frequently utilised to cross-reference entities. For example, an algorithm may be used to detect whether a text reference to "apple" refers to the firm or the fruit.

Bag of Words — A text classification approach that is widely utilised. A piece of text (sentence or document) is represented as a bag or multiset of words in the BOW model, and the frequency or occurrence of each word is employed as a feature for training a classifier, disregarding syntax and even word order.

Explicit Semantic Analysis (ESA) is the process of understanding the meaning of a piece of text as a combination of the concepts found in that text. It is used in Information Retrieval, Document Classification, and Semantic Relatedness calculation (i.e. how similar in meaning two words or pieces of text are to each other).

The method of examining associations between a group of texts and the phrases they include is known as **latent semantic analysis (LSA)**. Achieved by the creation of a collection of concepts relating to the documents and terminology. LSA believes that words with similar meanings will appear in similar texts.

LDA - Latent Dirichlet Allocation LDA is a popular topic modelling technique that assumes that each document or piece of text is made up of a small number of topics and that each word in the document belongs to one of them.

Natural language processing (NLP) is at work all around us, making our lives easier at every step, but we rarely give it a second thought. NLP's uses in our daily lives range from predictive text to data analysis.

VISIT TO TOPS TECHNOLOGY



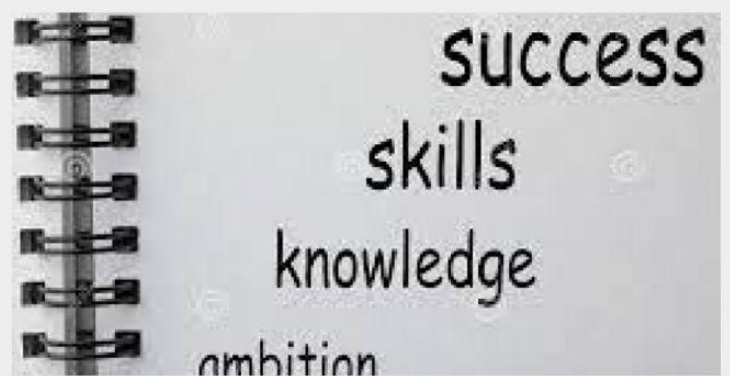
Students of 4th semester computer Engineering branch and Prof. Harsha Padheriya and Prof. Jagrati Shekhawat visited TOPS Technologies, on 13th February 2019. Mr. Atul Jain accompanied with 120 students visited the Company. Students learned there how to apply theoretical knowledge practically. Prof. Asha Patel arranged the visit at TOPS Technologies. Students were divided into 2 groups. They visited Development Center and Head Office of TOPS Technologies. It was a fun and learning session. Students learned there how to apply theoretical knowledge practically. Below are the contents of what students learned at TOPS Technologies.

PLACEMENT



Placements provide students, the opportunity to achieve specialized skills, of their choice and also acquire the ability skills required for real-life work. The knowledge of an industry or sector is increased, and the students can make better decisions about future career choices.

Knowledge and skills are the most important factors companies use to assess freshers during campus placements. With every business and organization going digital, the IT sector today is a booming field as compared to other sectors and there is a huge demand of Computer Science Engineers and programmers.



PLACEMENT



Raj Pandey got placed at Tata Consultancy Services with the starting package of 3.36 LK p.a.

Manuj Sanjay Patel got placed at e Clinical Works with the starting package of 3.2 LK p.a.

The logo for eClinicalWorks, consisting of a dark blue circle with the text 'eClinicalWorks' in white, lowercase letters inside it.

eClinicalWorks



L&T Infotech

Rushali Sharma got placed at L & T Infotech with the starting package of 3.18 LK p.a.

Dharmik Joshi got placed at Tatva Soft with the starting package of 2.16 LK p.a.



Priyal Patel got placed at Tatva Soft with the starting package of 2.16 LK p.a.

Aryan Bharwad got placed at Biz tech Consultancy with the starting package of 2 LK p.a.

The logo for Biz-Tech Consultants, featuring a stylized 'b' in orange and yellow, followed by the text 'BIZ-TECH CONSULTANTS' in a bold, sans-serif font.

BIZ-TECH CONSULTANTS



Megha Soni got placed at Krish Compusoft with the starting package of 1.8 LK p.a.

INDIA HACKATHON'19



Team Technocrats007 qualified for smart India Hackathon'19 Nationals. The Team members were Akash Panchani, Devanshi Shah, Furqaan Ahmed Khan, Harsh Mishra, Harsh Panchal, Shekhar Pandey and team mentor was Asst. Prof. Harsha Padheriya.

9 students participated in Gujrat Industrial Hackathon - 2019 from Computer Department. The problem statement were 'Prepaid energy meter' and 'Bus tracing system', and team mentor was Asst. Prof. Harsha Padheriya.

GUJARAT INDUSTRIAL HACKATHON'19



HORIZON'19 CULTURAL FESTIVAL



Rushi H. Bhatt secured First Position in 'Snooker' during the National Level Cultural Festival, Horizon '19 organised by Rotaract Club of Nirma Insitute.

Mehul Ratadiya secured Second Position in 'DUHA CHHAND' during the XITIJ Youth Fesitval, organize by Government Polytechnic Ahmedabad

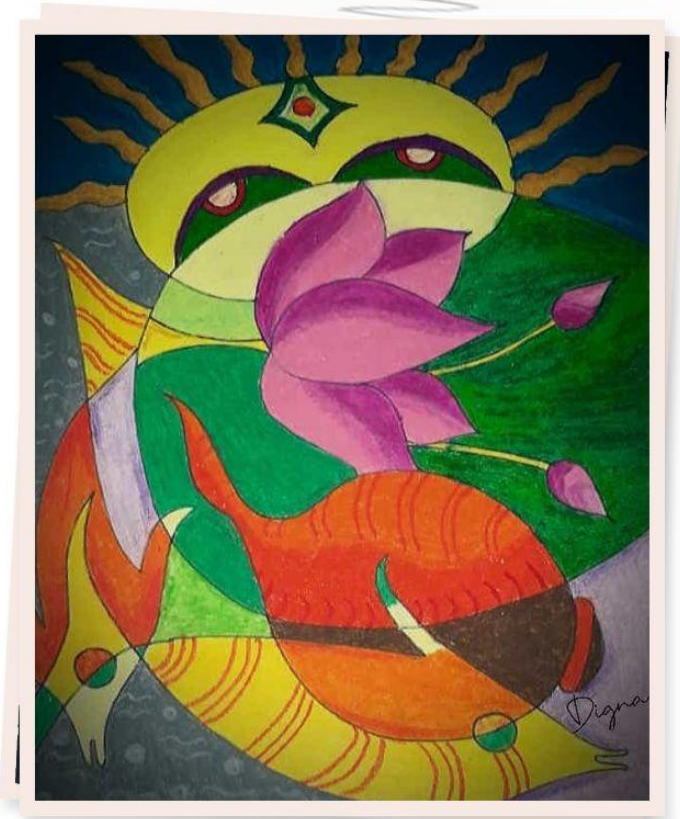
HORIZON'19 CULTURAL FESTIVAL



ARTWORK GALLERY



Village Girls by Digna Mistry



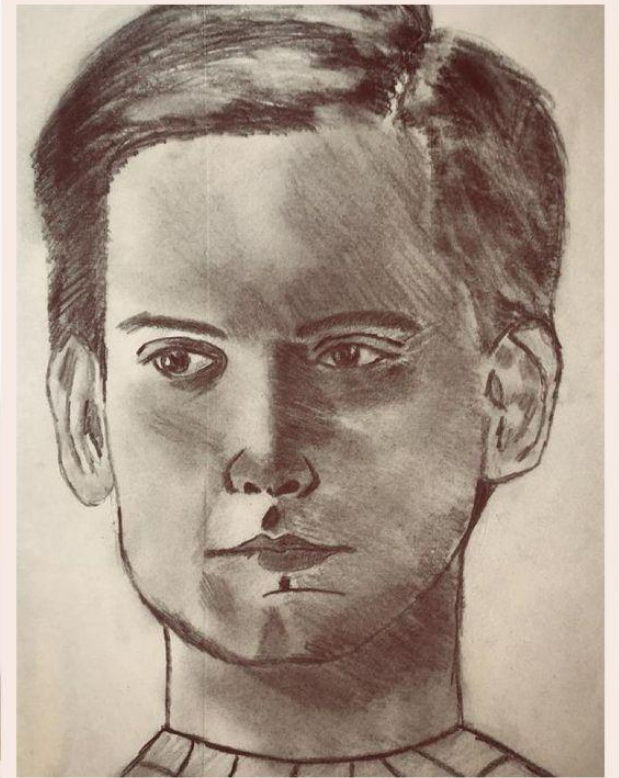
Abstract Art by Digna Mistry



ARTWORK GALLERY



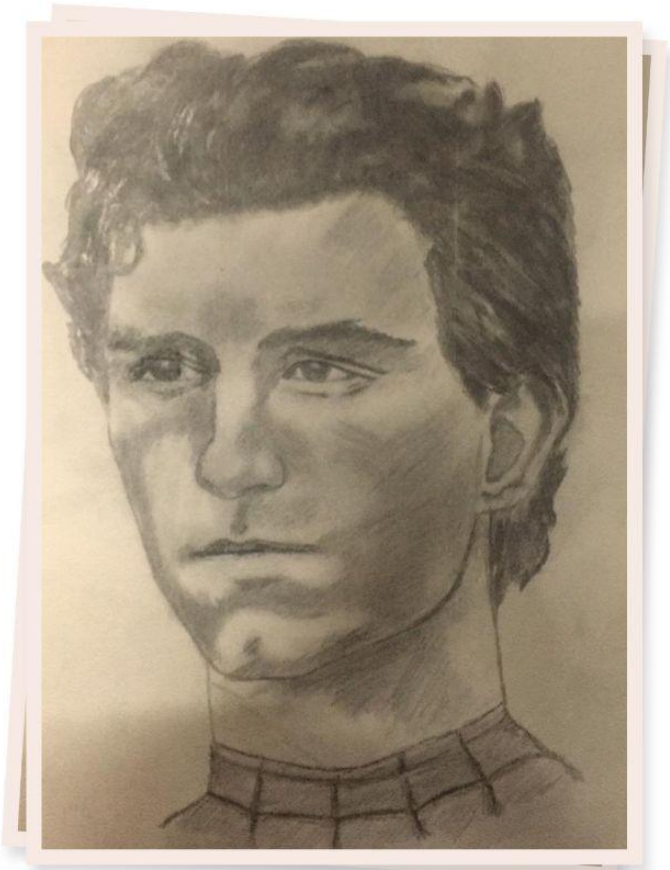
**Attitude Girl by
Digna Mistry**



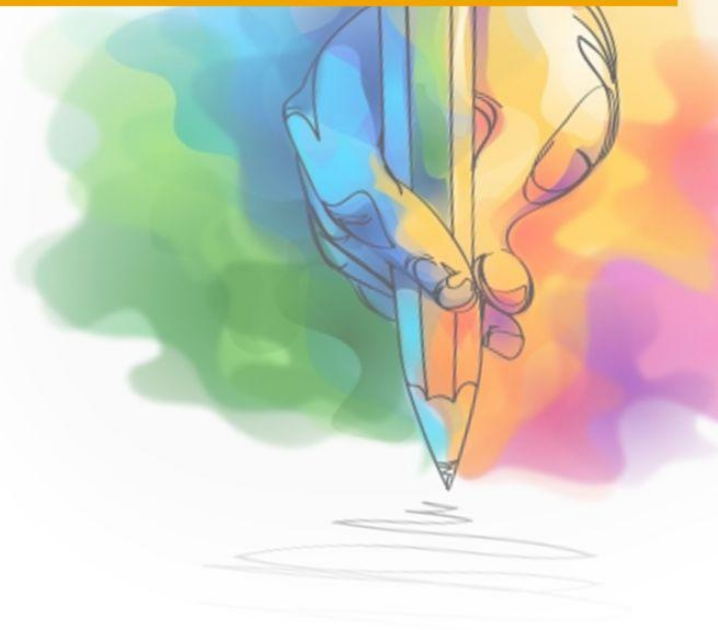
**Tobey Maguire by
Jainam Patel**



ARTWORK GALLERY



Tom Holland by Jainam Patel



Vegeta by Jainam Patel

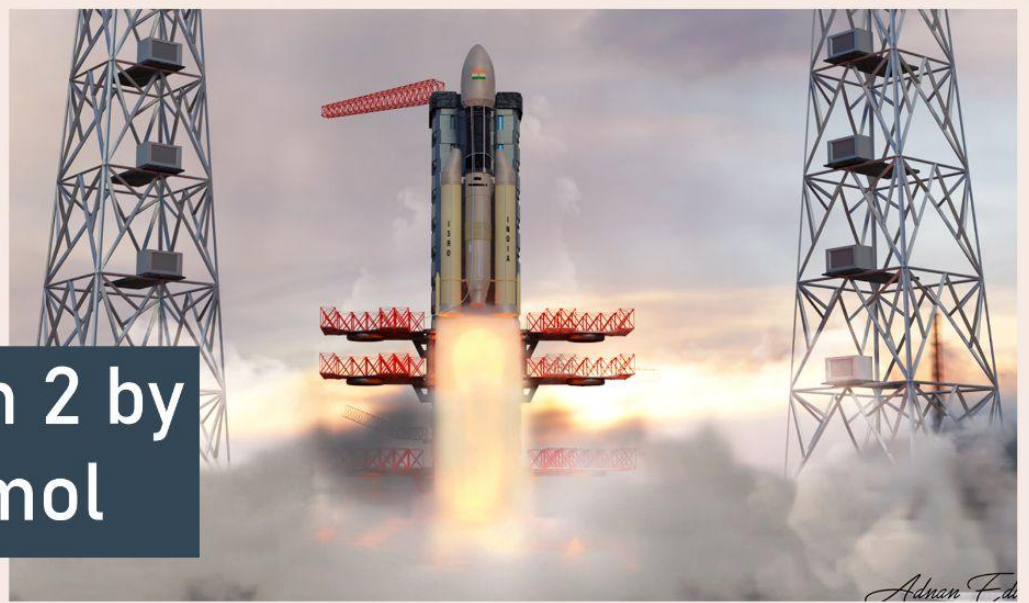


ARTWORK GALLERY

Soldiers by Janvi Patel



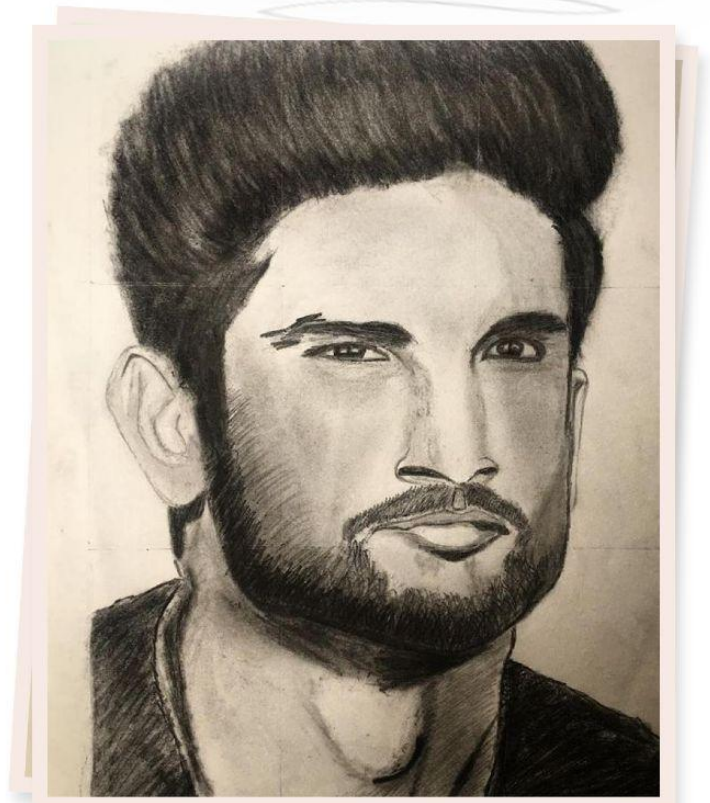
Chandrayaan 2 by Adnan Samol



ARTWORK GALLERY



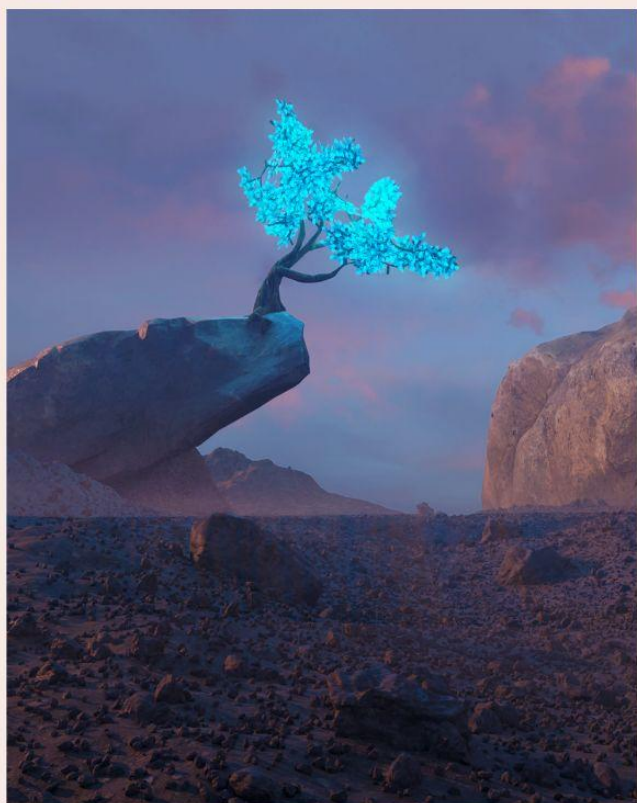
Girl by
Janvi Patel



SSR by
Jainam Patel



ARTWORK GALLERY



Mystical Tree by
Adnan Samol



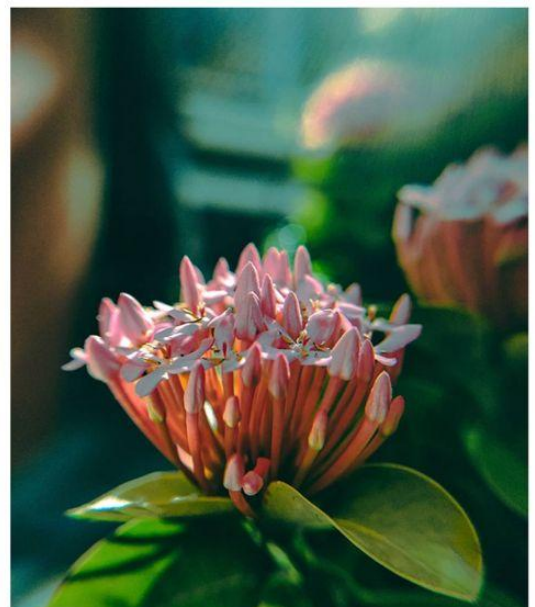
Baby Yoda by
Adnan Samol



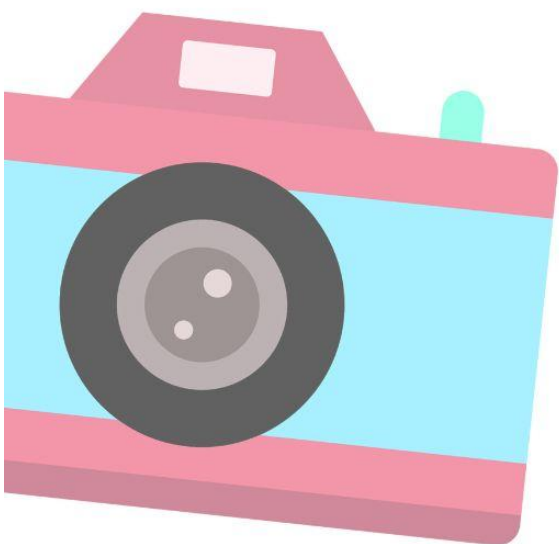
PHOTOGRAPH GALLERY



Sahil Parmar



Sahil Parmar



PHOTOGRAPH GALLERY



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Sahil Parmar

