

SUPAN SHAH

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- A technology enthusiast and an enterprising individual with a strong educational background.
- Pursuing MTech in Computer Science and Engineering (specialization in Data Science and Analytics) with CGPA of 3.91/4.
- Cleared 4 Actuarial papers from the Institute and Faculty of Actuaries (U.K) in the first attempt.
- Passionate about applied Machine Learning, Natural language processing, and Computer Vision to solve real-world problems.

Work Experience

Research Intern – Space Applications Centre, Indian Space Research Organization (ISRO) (April 2021 – Present)

- Working with Chandrayaan 2's team to create an innovative method to improve Chandrayaan 2's camera system with an aim to reduce lunar surface profiling time and cost.
- MTech Thesis under supervision of Dr. Aditya K Dagar on "Identifying and Estimating depth of lunar craters using monocular images from Chandrayaan 2's Orbiter High Resolution Camera (OHRC)"

Data Science Consultant – Locobuzz Pvt Ltd, Mumbai (January 2021 – Present)

- Worked with the NLP team to create a pipeline for sentiment detection on 6+ languages like Malay, Mongolian, Tamil, etc primarily on social media platforms like Twitter.
- Created a pipeline to scrape 1 Lakh+ logo images and pre-process the scraped data for Computer Vision based logo detection API development.
- Working independently to analyse social media traffic for company clients like Oreo to gain insights on the brand's trends along with client specific insights, and finally present them to non-technical personnel over monthly basis.
- Created a transformer-based architecture that sits at the core of the project titled 'Smart Reply' used to generate auto-replies with around 75% accuracy for customer queries on twitter for clients including HDFC Bank and BMW.
- Independently created a complete translation package that significantly solved a translation bottleneck in most of the company's data science pipelines, reducing translation time by over 90%.

Education

MTech in Computer Science and Engineering - Ahmedabad University, Ahmedabad (August 2020 – May 2022)

- Specialisation in Data Science and Analytics
- Cumulative GPA: 3.91/4
- University Rank 1

B.E in Instrumentation and Control - Gujarat Technological University, Ahmedabad (2016 - 2020)

- Cumulative GPA: 7.93/10

Higher Secondary - Gujarat Board of Secondary Education, Gujarat, India (2016)

- Overall Percentile Rank: 90.50

Secondary School - Gujarat Board of Secondary Education, Gujarat, India (2014)

- Overall Percentile Rank: 98.70

Projects

- **Deep Reinforcement Learning for tomato detection**, Ahmedabad University
 - Led a team of 5 to develop a framework to use Deep Reinforcement Learning for object detection under the supervision of Prof. Ratnik Gandhi.
 - The project is an ongoing research paper with open-source code available at <https://github.com/Supan14/RPN-Deep-RL>.
- **Crocodile identification from Scutes**, Ahmedabad University
 - Working with the Behaviour, Physiology and Conservation Lab at Ahmedabad University to create a CNN-based crocodile identification pipeline under Dr. Ratna Ghoshal.
 - The project is an ongoing research project and is aimed to be published by late 2021.

- **Classifying exoplanets from NASA database**, Ahmedabad University
 - Led a team of 4 to create a machine learning pipeline to classify planets from [NASA's exoplanet archive](https://nasa.gov/exoplanet) using XGBoost decision tree, and a working web-interface is deployed at <http://interstellar-explorers-app.herokuapp.com>
 - Code available at <https://github.com/Supan14/CSE523-Machine-Learning-Interstellar-Explorers>
- **Advanced Parking System**, Gujarat Technological University
 - Led a team of 4 to create an advanced parking system based on Programmable Logic Controller (PLC) and SCADA.
 - Created a physical model of a parking space wherein the cars are automatically guided towards their nearest empty space, calculates the parking charge based on parking times. The model had been proved to be flexible and scalable.
- **Floor Cleaner Robot**, Gujarat Technological University
 - Developed an autonomous floor cleaner robot on Arduino for our college classroom with a team of 4.
 - The robot is capable of following a pre-determined path in a room while cleaning the floor using a detachable brush. The model could successfully clean a predetermined space, but struggled to adapt to unforeseen obstacles, which is planned to be rectified using a future reinforcement-learning based model.
- **Clustering Areas in my district based on restaurant density**, IBM Data Science Capstone Project
 - Web-scraped Wikipedia for coordinates of neighbourhoods using BeautifulSoup
 - Rendered a map for the same data using folium. Also, used Foursquare API to gain insights of the density of restaurants in the scraped neighbourhoods.
 - Applied k-means clustering to cluster the areas into 3 classes and plotted the map highlighting the areas profitable for opening a new restaurant chain.
 - Code available at https://github.com/Supan14/IBM_Data_Science_Capstone.
- **COVID19 Data Analysis**, Personal Project
 - Used the COVID19 Daily Confirmed Cases dataset grouped country-wise from GitHub to gain insights on the correlations of infection rate with other country-specific parameters like GDP per capita, healthy life expectancy and Social Support.
 - The project transformed to several projects with codes available at https://github.com/Supan14/Covid_Tracker, <https://github.com/Supan14/COVID-19-Dashboard>, and <https://github.com/Supan14/Covid-19-Vaccine-tracker>

Software Engineering Competencies

- **Programming:** Python, R, MATLAB, VBA, SQL
- **Software:** Jupyter Notebook/Lab, VS Code, PyCharm, R-studio, Orange, Weka, Tableau, Power BI, Citect SCADA, Excel

Courses

- **TensorFlow Developer Professional Certificate** – Coursera
- **IBM Data Science Professional Certificate** – Coursera
- **Deep Learning Specialisation** – Coursera
- **Machine Learning** – Coursera

Actuarial Science Papers

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| • Core Mathematics – 1 (Actuarial Mathematics) – <i>Institute and Faculty of Actuaries, UK</i> | September 2019 |
| • Core Statistics – 2 (Risk Modelling and Survival Analysis) – <i>Institute and Faculty of Actuaries, UK</i> | April 2019 |
| • Core Business – 2 (Business Economics) – <i>Institute and Faculty of Actuaries, Oxford University, UK</i> | September 2018 |
| • Core Statistics – 1 (Actuarial Statistics) – <i>Institute and Faculty of Actuaries, Oxford University, UK</i> | April 2018 |

Achievements & Interests

- Intel Edge AI Scholarship recipient
- International COVID-19 Taskforce volunteer (Institute and Faculty of Actuaries, U.K.)
- Led a team of 5 musicians in the Inter-University Youth festival at the national level.
- Secured first position in GTU Zonal level music competition as the lead singer and guitarist in a band of 7 musicians.
- Trained and mentored a band of 4 musicians for a district-level music competition.
- Participated in Intra-college Football competition as a goalkeeper.
- Avid chess player.