JASH SHAH
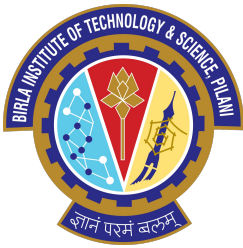
Course : **B.E. (Hons.)**, Elect. & Instrumentation, 2022
Email : f20180507@pilani.bits-pilani.ac.in
Mobile : 9825846159
CGPA : 7.71

ACADEMIC DETAILS

COURSE	INSTITUTE/COLLEGE	BOARD/UNIVERSITY	SCORE	YEAR
CLASS XII	Shiv Ashish Higher Secondary School	Central Board of Secondary Education (CBSE)	9.6 CGPA	2018
CLASS X	Nirma VidyaVihar School	CBSE	10 CGPA	2016

Subjects / Electives	Probability and Statistics, Micro-processors and Interfacing, Digital Design, Control Systems, Electrical Machines, Micro-Electronic Circuits, Business Communication, Technical Writing
Technical Proficiency	Python3, C Programming, C++ Language, MATLAB, PCB Design, Electronics Hardware Design, Machine Learning, Embedded Systems, Computer Vision, Robotics, Genetic Algorithms, Internet of Things, Blockchain Development

SUMMER INTERNSHIP / WORK EXPERIENCE

Embedded System Engineer and Electronics Specialist, Inspired Karters - Formula Students (IKR-FS) BITS Pilani　　　　**Oct 2018 - Present**
- Designed all the **High and Low voltage circuitry** (Primary as well as Secondary) for the car such as precharge-discharge and safety circuits.
- PCB designing on **KI-CAD and Eagle CAD**.
- Currently, designing the Control and Communication of the entire vehicle using **STM32F412Zg MCU** and commercial **Kvaser CANLoggers.**
- Worked with **BMS** (Accumulator Management System), **DCM** (Drive Control Module), **DAQ** (Data Acquisition System) and **Motor Controllers** and other integrated sensors like **IMU** (Inertia Measurement Units), **GPS and HMIs** (Nextian **Touch screen displays**).

AI-ML and IoT Intern, Silvertouch Technologies Pvt. Ltd.　　　　**May 2020 - Jun 2020**
- Research and development of a high-quality facial demographics system using an **SVM classifier** with **4 layers of customized ensembling**.
- A lot of Digital Image processing was involved which included customized scripts for altering various Image Transformation techniques.
- Embedding this model in **STM-32 firmware** as an IoT application on **AWS platform.**

POSITION OF RESPONSIBILITY

Embedded System Design Head - Inspired Karters - Formula Student (IKR-FS) BITS Pilani　　　　**Mar 2020 - Present**
- Worked as '**Junior Electric Engineer**' in the team during 2018 - 2019 and was promoted to " **Senior Specialist (Electronics)** " in 2019-2020 and in 2020 was promoted to " **Embedded System Design Head** "
- Designed the entire **control and coordination system** of the Electric vehicle. Currently, a staff of around 7 - 10 junior engineers is working with me.

Apogee and Oasis Coordinator - IEEE SB BITS Pilani　　　　**Apr 2020 - Present**
- Incharge of **planning and coordination** of IEEE SB events in the BITS Pilani's **official cultural as well as technical fests**.
- IEEE's Point of contact and **student chapter's outreach head**.

Treasurer - Gurjari Cultural Association BITS Pilani　　　　**Mar 2020 - Present**
Gurjari Association is the **official cultural association Gujarat** at BITS Pilani, with about **200+ members**. As the treasurer, I am responsible for the **growth and management of funds** at Gurjari Association.

PROJECTS

Smart Elevators - ML - PLC integration　　　　**Aug 2020 - Present**
- **PLC level integration of customized firmware** to implement smart and touchless elevator solutions.
- **RNN and CNN** based modules along with **Digital Signal Processing techniques** for detecting the floor number and detecting humans.
- **IoT based API** for remote-over the air updates and customization.

Genetic Algorithm Based maze solver - AI for Robotics, Path Planning　　　　**Dec 2019 - Feb 2020**
- Implemented **Micromouse robot** for an intelligent path mapping and planning using **UltraSonic sensors**.
- **Genetic Algorithm and Flood Fill algorithm** for path planning.
- Robust and efficient **PID** for fast turnings.
- Developed a **web-based simulation software** for prototyping the software, using **Python scripts and Flask**.

E-voting System based on Blockchain - Software Development　　　　**Dec 2018 - Feb 2019**
- Smart Contract, using **Solidity language** was deployed on Etherium Testnet.
- **Web3** based web interfacing was performed.
- **Truffle Framework** used with **NodeJs for Web socketing**.
- The system was tested on **Ganache Blockchain platform** on the localhost.
- **MySQL DBMS** used to send this data to web application, after extracting it from the chain.

Stair Climbing Robot - Robotics　　　　**Jul 2020 - Aug 2020**
- Fully **autonomous** stair climbing (ascent as well as descent)bot, capable of detecting and handling up to 4 kg of weight.
- **Yolo3 - Python** module based stair detection and navigation.
- **Rasberry PI 3** based control system.
- **Theft detection alarms and tracking systems** for making the product market-ready.

CERTIFICATIONS

CERTIFICATION	CERTIFYING AUTHORITY	DESCRIPTION
Industrial IoT on Google Cloud Platform	Coursera	Made an IoT application using the GCP to analyse the real-time traffic patterns in New Jersy, using an API provided by Google's AI-based traffic camera.
Neural Networks and Deep Learning	Coursera	Advanced concepts of Deep Learning and Neural networks with project aided learning.

CONFERENCES AND WORKSHOPS

CES Asia 2019
Organized by: **CES Asia** | Date: **Jun 2020**
- Participant at the CES Asia 2019 held in Shanghai, China.
- Studied the latest technological trends.
- Attended the launching and key-note events of 5G, IIoT and self-driving technologies of companies like Hawaii and Mercedes Benz.

EXTRA CURRICULAR ACTIVITIES

Chess
District level chess player form my school's chess team (Class 5 onwards).
Dance (Traditional - Garba)
Participated in university's founders day event

COMPETITIONS

Formula Bharat FSEV Concept Challenge 2020 **Jul, 2020**
- **International competition** held annually for student-based formula racing **car designing and racing competition**.
- This year, we competed with 40 other teams from other IITs and international universities and were the **winning team** (for the online round, further rounds will be held in January 2021).

VOLUNTEER EXPERIENCE

IEEE SB - Role: Founder of WIE branch | Cause: Education **Jan 2020 - Present**
Founder of the " Women in Engineering (WIE) " department under IEEE Student Section at BITS Pilani.
Indian Red Cross Society - Role: Blood Donor | Cause: Health **Feb 2019 - Feb 2019**
- Donated 1.5 units of blood in a camp by Indian Red Cross Society.
- Volunteered for the BDC camp in next semester.