



JASH SHAH
Course : **B.E. (Hons.)**, Electrical & Electronics, 2022
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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	Electrical Science, Technical Writing, Human Resource Development, Signals and Systems, Micro-processors and Interfacing, Control Systems, Electrical Machines, Digital Design, Cryptography, Micro-Electronic Circuits, Business Communication
Technical Proficiency	Computer Vision, MATLAB, Blockchain Development, Genetic Algorithms, PCB Design, Embedded Systems, Internet of Things, Machine Learning, Robotics, Electronics Hardware Design

SUMMER INTERNSHIP / WORK EXPERIENCE	
IoT Intern, Silvertouch Technologies Pvt. Ltd. Jul 2020 - Jul 2020 <ul style="list-style-type: none">Extended internship, training-cum-project was to add market value to the facial demographics project. The company accepted me as an intern for the project idea that I pitched.Gained industrial IoT trainingDeveloped a real-time song- recommendation system (for Cafes and Bars) based on the type of crowd present at the time.Developed the prototype firmware according to the company's requirements.	
AI-ML Intern, Silvertouch Technologies Pvt. Ltd. May 2020 - Jun 2020 <ul style="list-style-type: none">Research and development of a high-quality facial demographics system.Made an <u>SVM classifier</u> with <u>4 layers of customized ensembling</u> for the given dataset.A lot of Digital Image processing was involved which included customized scripts for altering various Image Transformation techniques.Made a web interface using Flask and integrated it to the system's web-cam.	
Embedded System Design Engineer and Electronics Specialist, Inspired Karters - Formula Students (IKR-FS) BITS Pilani Oct 2018 - Present <ul style="list-style-type: none">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.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).Worked with STM32 controllers and commercial CANLoggers.	

PROJECTS	
<div><div>Smart Elevators - ML - PLC integration</div><div><ul style="list-style-type: none">PLC level integration of customized firmware to implement smart and touchless elevator solutions.RNN and CNN based modules for detecting the floor number and detecting humans.Digital Signal Processing techniques implemented in order to increase the efficiency in the closed elevator environment.Implementing the project on local storage, thus removing the scope for network-related issues.IoT based API for remote-over the air updates and customization.</div></div>	Aug 2020 - Present
<div><div>Power recycling in EV using Advanced SeeBeck effect - Analog Circuit Design, Heat Transfer</div><div><ul style="list-style-type: none">Research-based project mainly intended to increase efficiency of a Thermoelectric generator using Transitorial approach.Extending the scope to the EV sector wherein the module will recycle the accumulator generated heat and the coolant as a heat sink.Further power saver modes to involve the BMS as a controlling unit for triggering the generator.</div></div>	Aug 2020 - Present
<div><div>Stair Climbing Robot - Robotics</div><div><ul style="list-style-type: none">Implemented a fully autonomous stair climbing bot, capable of handling up to 4 kg of weight.The bot could autonomously detect ascend and descent and act accordingly.Yolo3 - Python module based stair detection and navigation.Implemented theft detection alarms.The entire control system was set up on Rasberry PI 3.Mechanically designed to climb upstairs with double its height, without damaging the package.Added market feasibility for commercialising the product for home delivery purposes.</div></div>	Jul 2020 - Aug 2020
<div><div>Genetic Algorithm Based maze solver - AI for Robotics, Path Planning</div><div><ul style="list-style-type: none">Implemented Micromouse robot for an intelligent path mapping and planning.Simple hardware module including only UltraSonic sensors for detecting walls.Genetic Algorithm and Flood Fill algorithm for path planning.Efficient PID for fast turnings.Developed a web-based simulation software for prototyping the software, using Python scripts and Flask.</div></div>	Dec 2019 - Feb 2020
<div><div>Research on Starvation Free CAN based network in Electric Vehicle - Embedded Communication</div><div>Research project for developing a customized protocol for a starvation free CAN-based network in Electric vehicles.</div></div>	Nov 2019 - Present
<div><div>Artificial Intelligence based Sudoku detection and solver - Artificial Intelligence</div><div><ul style="list-style-type: none">Used OpenCV for various image enhancement techniques.CNN based sudoku detector.Sudoku solving algorithms involved the following:-<ul style="list-style-type: none">Simple methods<ul style="list-style-type: none">BacktrackingGenetic AlgorithmSimulated annealingGraph methods<ul style="list-style-type: none">Graph colouring methods(customized)DFS method (Backtracking)</div></div>	Feb 2019 - Mar 2019
<div><div>E-voting System based on Blockchain - Software Development</div><div><ul style="list-style-type: none">Smart Contract, using Solidity language was deployed on Ethereum Testnet.Truffle Framework used with NodeJs for Web socketing.The system was tested on Ganache Blockchain platform on the local host.The final results were saved in the format of CSV files, and could be used for further analysis.</div></div>	Dec 2018 - Feb 2019

POSITION OF RESPONSIBILITY	
Apogee and Oasis Coordinator - IEEE SB BITS Pilani ◦ 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 .	Apr 2020 - Present
Treasurer - Gurjari Cultural Association BITS Pilani 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.	Mar 2020 - Present
Embedded System Design Head - Inspired Karters - Formula Student (IKR-FS) BITS Pilani ◦ IKR-FS is a student-based organization that has a vision of building a completely running Electric vehicle (Formula Racing car). ◦ I 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.	Mar 2020 - Present
EXTRA CURRICULAR ACTIVITIES	
Drawing Certified as a professional painter by the " State Intermediate Examination for Drawing" board of authority, in 2015 Chess District level chess player form my school's chess team (Class 5 onwards). Dance (Traditional - Garba) Participated in university's founders day event Classical Music (Vocal and Instrumental) Took certified for classical music in both vocal and instrumental (keyboard). Passed the 2nd (year) level examinations in the classical music exams.	
AWARDS AND RECOGNITIONS	
International Stranded of ABACUS COMPUTATION The Malaysia Book of Records Passed and received ORDINARY GRADE 11 in the International Standard of ABACUS COMPUTATION associated with Malaysia Books of Records and ZHUSAN associations in 2009.	Jan 2009
COMPETITIONS	
Formula Bharat FSEV Concept Challenge 2020 We took part in the Formula Student Competition, which is an international competition held annually. 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).	Jul, 2020
Flipkart Grid Robotics ◦ Designed a stair-climbing robot that could carry about 3 to 4 kg of weight. ◦ Added market-feasibility and commercial value to the product.	Jul, 2020

CONFERENCES AND WORKSHOPS
<p>Workshop on EV Battery Technology Organized by: SKYY RIDER Date: Jul 2020 Took part in Electric Vehicle Battery Management Workshop, organised by SKYY Rider in association with Gram Tarang (Partner of NSDC- Govt. of India).</p> <p>CES Asia 2019 Organized by: CES Asia Date: Jun 2020</p> <ul style="list-style-type: none">Participant at the CES Asia 2019 held in Shanghai, China.Studied the latest technological trends.Investigated the upcoming technologies.Attended the launching event and key-note speech of 5G, IIoT and self-driving technologies of companies like Hawaii and Mercedes Benz. <p>Embedded Online Conference Organized by: Embedded Online Conference Date: May 2020</p>
VOLUNTEER EXPERIENCE
<p>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. The department aims for women empowerment in engineering(Primary) and other fields.</p> <p>Indian Red Cross Society - Role: Volunteered for blood donation camp Cause: Health Sep 2019 - Nov 2019 Part of organizing committee of the ' Blood Donation Camp ' at BITS Pilani.</p> <p>Indian Red Cross Society - Role: Blood Donor Cause: Health Feb 2019 - Feb 2019</p> <ul style="list-style-type: none">Donated 1.5 units of blood in a camp by Indian Red Cross Society.Volunteered for the BDC camp in next semester. <p>Friends of AMC - Role: Team Member Cause: Environment Mar 2013 - May 2013 Active team member of " Friends of AMC ", an NGO working closely with AMC(Ahmedabad Municipal Corporation) to promote and facilitate the cleanliness in Ahmedabad.</p>
LANGUAGES KNOWN
English, Gujarati, Hindi