

## KESHAV SHAH

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### EDUCATION:

<b>New Jersey Institute of Technology (NJIT), Newark, NJ</b>	<b>May 2019</b>
Master of Science in Computer Engineering; GPA: 3.550	
<b>Institute of Technology, Nirma University, India</b>	<b>June 2017</b>
Bachelor of Science in Electronics and Communication Engineering	

**Relevant Coursework:** Embedded Computing Systems, Programming in Microcontroller, Digital System Design, VLSI Design, Computer System Architecture, Wireless Sensor Network, Digital Signal Processing, Analog Circuits & Design

### TECHNICAL SKILLS:

**Software:** Multisim, Proteus, Keil, EAGLE, Mentor Graphics, Arduino IDE, HSpice, MATLAB, Altera Quartus, Modelsim, LabView

**Hardware:** Atmel 8051, FPGA, Function Generator, Oscillators

**Programming:** C, C++, Python, VHDL, Verilog HDL, Spice, MySQL, XML

**Operating Systems:** Windows, Linux, Raspbian

**Soft Skills:** Communication, Positive minded, Punctual, Self-motivating, Analytical

### PROFESSIONAL EXPERIENCE:

<b>Potsdam Sensors, Potsdam, NY, USA, Electronics Engineering Internship</b>	<b>October 2020 – Present</b>
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- Designed the PCB of the Hardware prototype having SAMD21G MCU using EAGLE
- Working on POE to send the sensors' data from the Hardware board to the Internet via the WIZ750SR and Power Over Ethernet (POE) board using UART and I2C protocol and Arduino MEGA 2560.

<b>NJIT Venture link, Newark, NJ, USA, Associate Biometrics Software Engineer</b>	<b>August 2019 – March 2020</b>
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- Implemented hand recognition algorithm on hardware boards like Raspberry Pi, Arduino using Python, C++ programming & later interfaced the hardware boards with proximity sensor & triggered the actuators such as buzzer & relay switch to provide authentication to the person if the image processing algorithm detects an authorized user & had designed PCB of the hardware model

<b>Bharat Sanchar Nigam Limited (BSNL) Ahmedabad, Gujarat, India, Engineering Intern</b>	<b>May 2016 - June 2016</b>
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- Learnt the basics of wired and wireless communication along with demonstration and laboratory work including various aspects of communication like Fiber Optics, GSM, evolution of switches from manual to present day packet-switched switches.
- Worked on a project based on Device to Device communication (M2M) using Optical Fiber and Arduino.

### PROJECTS:

<b>NJIT Highlander Drone Competition, @NJIT</b>	<b>Spring 2019</b>
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- Designed, implemented, and tested software and Hardware architecture design of a drone
- Software:** Xming server, Ubuntu shell, VNC viewer, Qground control
- Hardware:** - Pixhawk, Brushless BLDC motors, ESC's, DJI Power module, GPS, Taranis X7 RF remote controller
- Qualified for the second round after getting successful flight completion of drone in first round

<b>ASIC Design: - 32-bit Synchronous Counter</b>	<b>Fall 2018</b>
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- Accomplished the project using tools such as HSPICE, Mentor Graphics IC Schematic editor and Layout editor
- Calculated the rise time, fall time delays and the noise margin of the 32-bit Synchronous counter making its design optimized

<b>Traffic Light Controller</b>	<b>Fall 2018</b>
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- Implemented the VHDL coding on FPGA DE2 Altera board of Quartus II Cyclone II, used LED's signal indication with FPGA
- When one signal turns green, it would stay green till it detects traffic and then it would turn red after the traffic becomes idle

<b>Real Time Vehicle Theft Detection</b>	<b>Spring 2018</b>
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- Developed an automatic vehicle theft control system based on facial recognition mechanism using Python and ARM Cortex processor
- Vehicle would only get ignition to start if the facial features are found to be of the owner or of any family member of the owner

<b>ASIC Design: - 4-bit Binary Multiplier</b>	<b>Fall 2016</b>
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- Implemented using Verilog coding and verified the output on DE2 FPGA board of Quartus II Cyclone II
- Implemented the RTL gate level design of the code in tools such as Microwind, Dsch03
- Calculated the rise time, fall time and propagation delay, power dissipation thus making it suitable for direct fabrication

<b>Temperature Detection and Control</b>	<b>Spring 2016</b>
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- Interfaced DHT-11 with Microcontroller ATMEGA328 in C++ to extract values of Temperature, Humidity & then control the temperature of room if temperature reaches beyond the specific range using heater rod and a fan followed by designing PCB layout of the overall circuit

### CERTIFICATION AND EXTRACURRICULAR:

- Certification in Computer Hardware and Networking
- Volunteered at IEEE, New Jersey Institute of Technology (NJIT) in organizing various Technical events
- Worked as a Conference Assistance at NJIT Residence Life
- Served as a liaison at a Non-Governmental Organization (NGO), Yuva Unstoppable for executing various cultural event