NILKANTH VIPULKUMAR KAPADIA

B.Tech - Electronics And Communication Engineering

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Ahemdabad, Gujarat, India

BRIEF SUMMARY

Ingenious and determined Electronics engineer focused on solving problems. Eager to pursue a challenging career and serve a progressive organization to nourish, develop and expand my skill set.

KEY EXPERTISE

C Programming | Python | Verilog HDL | Arduino | ESP32 | STM32 | 8051 | RTOS | SPI | UART | I2C | PWM | BLE | Bluetooth Classic | Keil IDE | Internet of Things | PCB Design | MATLAB | Soldering | Quartus II | ModelSim | ASIC | Leadership

EDUCATION

Nirma University 2020 - 2024
B.Tech - Electronics And Communication Engineering | CGPA: **7.97** / **10.00**

Experimental School 2020
12th | GSEB | Percentage: **80.61** / **100.00**

Experimental School 2018
10th | GSEB | Percentage: **94.50** / **100.00**

PROFESSIONAL EXPERIENCE

Doubtnut | Education 01 May, 2021 - 31 Oct, 2021
Maths Teacher
Key Skills: Teaching
Math Tutor of Class IX-X.

Team Nirma Robocon 01 Oct, 2020 - 31 Mar, 2021
Electronics Trainee
Key Skills: Robotics
Worked on Sensors, Microcontrollers, and Actuators.

INTERNSHIPS

eInfochips 05 Jun, 2023 - 14 Jul, 2023
Embedded Trainee Engineer
Research on sensors used in advanced phones.
Explored the mobile phone manufacturing process.

PROJECTS

Digital Watch using STM32 and Real Time Clock
Team Size: 1
Key Skills: C Programming | Keil IDE | STM32 | ARM Architecture | I2C | Device Drivers

•Explored the AMBA Bus Architecture.
•Implemented the I2C protocol for fetching time from Real Time Clock and Display the time on OLED Display with the help of STM32F103C8 aka Bluepill.
•Built all necessary Device Drivers on my own with the help of C programming.
•Used the Modular Programming Approach.

Multipurpose Maze solving Robot
Team Size: 5
Key Skills: C Programming | Arduino | PID | Bluetooth | PWM

•Role in Project : Leader
•Winner of RoboFest 3.0 level-1 & 2.
•Developed multipurpose wall maze-solving robot, which is able to solve unknown mazes, has a Video Surveillance capability, and turns into Remote Control Car.
•Used Arduino Nano as the main controller and ESP-32 CAM for Video Streaming.
•Used PID technique for Motor Synchronization.

Implementation of FreeRTOS on Arduino

Team Size: 1

Key Skills: FreeRTOS | C Programming | Arduino IDE | Arduino UNO

•Used FreeRTOS for scheduled embedded tasks for Traffic Light Project.
•Applied different mechanisms to protect the Critical Section of the program.

UART – Universal Asynchronous Receiver And Transmitter using Verilog

Team Size: 1

Key Skills: UART | Verilog | Quartus II | ModelSim-Altera

•Designed and Implemented a UART which is widely used in serial communication that enables data transmission between devices.
•Developed the logic circuitry using Verilog and synthesized it to a target FPGA platform for hardware implementation.

AI Virtual Painter

Team Size: 1

Key Skills: Python | OpenCV | Pycharm | NumPy

•Used Python Programming language for Creating AI Virtual Painter.
•Used OpenCV for recognition of Gesture moments.

ACHIEVEMENTS

- GUJCOST RoboFest 3.0 (India's Biggest Robotic Competition) - Level -1 & 2 cleared. Received Cash Prize 150000/- (Role: Leader)
- InnovaTex by IEEE ITNU - 1st place holder - Received Cash Prize 5000/-
- Smart Transportation and Agriculture Hackathon by eInfochips - 2nd place holder - Received Cash Prize 5000/- (Role: Leader)
- Received an appreciation letter from the Institute of Technology, Nirma University for presenting a project in front of National Assessment and Accreditation Council (NAAC) committee members.

ASSESSMENTS / CERTIFICATIONS

VLSI SoC Design using Verilog HDL by Maven Silicon

Key Skills: Verilog HDL | VLSI

This course explains VLSI Technology, SoC Architecture, and Design process, coding for synthesis and simulation. It explains the concept of hardware description language and basic concepts like data types and operators.

The Arduino Platform and C Programming by Coursera

Key Skills: Arduino | C Programming

This course explains the Fundamentals of C Programming and the Arduino Environment.

Learn Printed Circuit Board Design by Altium

Key Skills: PCB Design

This course explains the Fundamentals of PCB design, ECAD tools, schematics, and layouts.

PERSONAL INTERESTS / HOBBIES

- Cycling, Karate & Travelling

PERSONAL DETAILS

Gender: Male
Current Address: Sarkhej - Gandhinagar Highway, Opp, Nirma University Rd, Gota, Ahemdabad, Gujarat, India

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Known Languages: Gujarati,Hindi,English
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