Het Patel

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EDUCATION

Sonoma State University*, *Rohnert Park, CA August 2021 - December 2023
Masters of Science in **Electrical and Computer Engineering (3.7 GPA)**

- **Relevant Coursework** – Embedded Systems, Linear Systems Theory, Analog and Digital Communications, Microprocessor and System Design, Introduction to Internet of Things, AWS and cloud programming, and RF and Microwave design.

Silver Oak University*, *Gujarat, India August 2016 - August 2020
Bachelors in **Computer and Engineering Science**

- **Relevant Coursework** – Basic electronics, Microcontroller and processor design, Introduction to c, Object oriented programming, Theory of computation, Engineering math, C++ programming and Software engineering.

SKILLS

- C, object oriented C++, RTOS
- Protocols: I2C, SPI, UART, ADC
- Arm Cortex Bare Metal programming from ground up
- Libraries: HAL API driver development, FreeRTOS
- Microcontrollers: STM32F401RE, PIC18F45K50, ESP8266 and family
- IDE: STM32CubeIDE, STM32MX, MPLAB, ArduinoIDE, VSCode
- Software: Matlab, ADS, Mysql, Github
- Instruments: Oscilloscope, Signal generator, spectrum analyzer

PROJECTS

RTOS based End to End Development of Breath Data Collection Device with an Integrated 4G Data Logging Capability January 2023 - Current

- Developed a breath data collection device, to sense non volatile elements with three sensors, which improves the existing design by migrating it to a new microcontroller and integrating 4G cellular data logging capability.
- Researched on different microcontrollers, appropriate MCU selection and implementing the circuit with the new environment microcontroller design.
- Utilize *I2C* communication protocol for MCU and 4G cellular module for communication.
- Sending data over the azure cloud for easy reliable real time access to the users of the device.

Characterizing different ToF (Time of Flight) sensors for precision applications and comparing their differences January 2023 - Current

- Developed a program in C language and deployed on STM32F4 board which can read the data from ToF sensor and calculate the distance between obstacle and transmitter.
- Characterized, built a prototype and tested in various conditions in such a way that it can be used in precision applications for the real world.

WORK EXPERIENCE

Software Developer Intern
BSP Technologies August 2020 - August 2021

- Developed dynamic and interactive web applications using technologies such as PHP, HTML, CSS, and MySQL, ensuring efficient and responsive user interfaces.
- Engaged in training and PHP crash course with lead development engineer.
- Collaborated with cross-functional teams to design, implement, and deploy a live website, achieving seamless functionality and high performance on a production server.
- Maintained meticulous documentation throughout the design process, ensuring accurate and organized records for future reference.