

CURRICULUMVITAE

AKUL DATTATRI

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PORFILE

A proficient Embedded Firmware Engineer with over 1.7Y of experience, Specialization in embedded Firmware development for embedded automation products.

WORK EXPEIENCE(1Y7M+)

Total 1year-7months Experience as an Embedded Software Developer in BDGtronix pvt ltd(Bangalore) From July 2023 to till date.

TECHNICAL SKILLS

- Hands on experience with C and Embedded C programming.
- Good understanding of Data Structures concepts such as Array, Queues, Stack.
- Basic knowledge on software development with layered architecture (Basic AUTOSAR).
- Wireless Interfaces such as NRF (nRF24L01) Transceiver and Wi-Fi (ESP8266).
- Hands on programming and configuration for microcontroller peripherals such as
 - Inputs and Outputs: GPIO, Interrupts, ADC, PWM, CCP.
 - Internal: Timer, EEPROM, Watchdog Timer, Interrupts,
 - Displays: LCD, 7 segment, OLED
- Communication protocols interfacing experience on UART, SPI, I2C, Modbus.
- Worked on RS232, RS422, RS485 modules.
- Worked with Networking protocols like TCP/IP, DHCP.
- UML diagram, Sequence diagram and documentation skills.
- Worked on MCAL Platform Development.
- Worked on Firmware, Platform development and Bare Metal programming.
- Basic knowledge of Hardware debugging and understanding of schematics.

TOOLS AND IDEs

- MPLABX IDE, MPLABX IPE, Eclipse IDE, Arduino IDE.
- Agile methodology (JIRA software).
- Beyond compare, Docklight, tera term.
- Debugger- PICKit2, PICKit3, STM32 ST-Link utility, Saleae Logic analyzer, oscilloscope.

CURRICULUR ACTIVITIES

- Internship: -Attended six weeks so find us trial training on Verilog HDL conducted by Techfluent solutions pvt ltd.

PROJECTSHANDLED

- **Smart Home Automation:**

Developed a smart switchboard allowing control of home appliances (lights, fans, sockets) via app (Wi-Fi), remote (nRF), and capacitive touch switches.

Responsibilities:

- Collaborated on system architecture, analyzed requirements, and designed flow diagrams.
- Configured and managed software modules:
 - Interfaced ESP8266 Wi-Fi module with PIC16F18876 using UART protocol.
 - Interfacing Nrf24L01 with PIC16F18876(RX) and PIC16LF18344(TX) via SPI protocol.
 - Random key ex-changing for pairing between Receiver and Transmitter.
 - Interfacing TTP223 Touch Sensor module through GPIO (Interrupt base) in Receiver.
 - Interfacing Switches using hex keypad method to identify pressed key in remote.
 - Port forwarding to control multiple boards using ESPs connected to single router.
 - Reading and writing to EEPROM to update light and fan status.
 - Integrated watchdog timers on PIC16F18876 (RX) and PIC16LF18344 (TX) boards.
- Conducted unit testing including developing test plans and generating test reports to ensure code quality.
- Performed integration testing, including developing test plans and generating test reports, to ensure seamless functionality.

- **Smart Bulb Holder:**

Developed a Smart bulb holder allowing control of bulb using any Remote, using a TSOP-58388 IR to receive signal from any Remote.

Responsibilities:

- Collaborated on system architecture, analyzed requirements, and designed flow diagrams.
- Study the pulses received by the multiple IR remotes.
- Developing code according to Design Document Specification.

EDUCATIONAL QUALIFICATIONS

Exam	Institution	University Board	Year	Percentage (CGPA)
B.E (Electronics and Communication)	Methodist collage of Engineering and Technology, Hyderabad.	Osmania University	2019 - 2013	6.96
Intermediate Education (MPC)	Dr.RLR Junior college, Zahirabad.	Telangana state board of Intermediate Education	2017- 2019	91.8%

PERSONAL INFORMATION

- Name : AKUL DATTATRI
- Date of Birth : 04-02-2001
- Gender : Male
- Marital Status : Unmarried
- Languages Known : English, Hindi, Telugu and Kannada.
- Permanent Address : S/o Akul Prabhakar, Housing board colony, Zahirabad.
Taluk: Zahirabad dist: Sangareddy State : Telangana.
PIN:502220

DECLARATION

I hereby declare that the above stated information is true to the best of my knowledge

Place: Bangalore

AKUL DATTATRI