

# Yawarkhan Pathan

 [8487864415](tel:8487864415)  [pathanyawarkhan785@gmail.com](mailto:pathanyawarkhan785@gmail.com)  [pathanyawarkhan](https://www.linkedin.com/in/pathanyawarkhan)  [LeetCode](https://leetcode.com/pathanyawarkhan)  [GitHub](https://github.com/pathanyawarkhan)

## Summary

---

- Experienced Embedded Software Developer specializing in C-based firmware and driver development for semiconductor systems. Proven expertise in optimizing embedded solutions, enhancing wireless protocols (WiFi, Bluetooth, Zigbee, OpenThread), and ensuring seamless hardware-software integration.

## Work Experience

---

### NXP Semiconductors, Pune

Jul 2023 – Jun 2024

Role:- Software Development Engineer and Automation Engineer

- Developed and optimized firmware and drivers for NXP SoCs using Embedded C, enabling seamless integration of wireless protocols like WiFi, Bluetooth, OpenThread, and Zigbee.
- Automated WiFi and Bluetooth testing processes using Python, streamlining manual efforts and ensuring real-time validation.
- Diagnosed and debugged wireless network issues using tools like WireShark and Omnipcap, optimizing network reliability and reducing packet loss.
- Improved Bluetooth profiles (HFP, A2DP, BLE, etc.) and Zigbee performance by 20% on Android IoT and Auto platforms, ensuring robust system-level integration.
- Engineered and enhanced I2C and SPI communication interfaces, supporting efficient hardware-software functionality.
- Environment
  - OS: Linux, Android, RTOS
  - Packet analyzer: WireShark, Omnipcap
  - Tools: Iperf, Chariot ixia, QTT(Quick Track Tool), JIRA, Git
  - Protocol: TCP, UDP, IP, DHCP, IEEE-802.1x/w, TDM, PCM, I2S, PDM, Slimbus

### SocialPilot Solutions LLP, Ahmedabad

Jan 2022 – May 2022

Role:-Backend Developer

- Implemented performance optimizations in backend systems, improving execution speed by 30%.
- Leveraged APIs to enhance data integration, enabling improved connectivity for users by 20%.

## Technical Skills

---

- Languages:** C, C++, Python, Bash, Shell scripting, Verilog
- Protocols:** WiFi (802.11), Bluetooth (HFP, BLE, etc.), Zigbee, OpenThread, UART, I2C, SPI
- Tools:** WireShark, Omnipcap, Git, Jira
- Platforms:** NXP i.MX-8M, ESP32, STM32, Raspberry Pi

## Projects

---

### 1.Embedded Firmware and Driver Engineering | NXP Semiconductors

2023 – 2024

- Optimized firmware and drivers for NXP SoCs using Embedded C, enabling seamless integration of WiFi, Bluetooth, OpenThread, and Zigbee.
- Conducted advanced debugging, testing, and performance tuning on NXP SoCs to enhance reliability and throughput for wireless applications.
- Designed reusable firmware components for NXP SoCs, ensuring efficient integration with WiFi, Bluetooth, OpenThread, and Zigbee protocols.

<b>2.Implementation of UART serial communication on FPGA   Nirma University</b>	<b>2022 – 2023</b>
<ul style="list-style-type: none"><li>• Implemented UART serial communication using Verilog on Altera DE2 FPGA.</li><li>• Ensured seamless integration and optimized communication speed and accuracy.</li></ul>	

**Education**

---

M.Tech in <b>Computer Science and Engineering</b>   Nirma University, Ahmedabad	Grade - A(Distinction)	<b>2022 – 2024</b>
B.Tech in <b>Information Technology</b>   Anand Agricultural University, Anand	Grade - A	<b>2018 – 2022</b>

**Certification**

---

- Infineon Hackathon - **AES-128 Cryptanalysis**
- VEGA Microprocessor based on **RISC-V** workshop
- TTTC Workshop on **VLSI** test and reliability
- LeetCode - Daily solver