JOB 9: Embedded Systems Engineer

Job Overview

An Embedded Systems Engineer is responsible for designing, developing, and optimizing software and hardware for embedded systems. They work with microcontrollers, real-time operating systems (RTOS), and low-level programming to create efficient and reliable embedded solutions.

Required Skills for embedded systems engineer:

1. Embedded C
2. RTOS
3. Microcontroller Programming
4. PCB

Skill Information:

1. **Embedded C** – A low-level programming language for writing firmware and system software.
2. **RTOS (Real-Time Operating System)** – A specialized OS for time-critical embedded applications.
3. **Microcontroller Programming** – Developing software for microcontrollers like ARM Cortex, AVR, and PIC.
4. **PCB (Printed Circuit Board) Design** – Designing circuit layouts using software like Altium Designer or KiCad.

Skill Learning Resources

- **Embedded C:** Mastering Embedded C Programming (Book), Udemy Embedded C Course, FreeCodeCamp Embedded C Tutorial
- **RTOS:** FreeRTOS Documentation, Real-Time Operating Systems (Coursera), RTOS Programming for Embedded Systems (Book)
- **Microcontroller Programming:** ARM Cortex-M Programming Guide, AVR Programming (Book), STMicroelectronics Tutorials
- **PCB Design:** KiCad PCB Design Guide, Altium Designer Documentation, PCB Layout Techniques (Book)

Difficulty Level

Advanced – Requires a deep understanding of low-level programming, real-time constraints, and hardware design.