Srinath University
अध्ययन • अनुशासन • अनुग्रहण

JOB DESCRIPTION

SENTIENTX

Organization:	**SENTIENTX**
Job Title:	**MULTIPLE POSTS**
CTC:	**4 LPA**
Location:	**Bangalore**
Departments Eligibility:	**B.Tech/Management/Commerce/IT**
Course Eligibility	**BCA/MCA/BBA/MBA/B.COM/CSE**
Student Gender Preference:	**ALL**

General Job Description

PCB Design Engineer

- Design multi-layer PCBs for humanoid robots, grippers, sensors, and compute modules.
- Handle high-speed routing, power distribution, thermal design, and signal integrity.
- Prepare manufacturing files and support PCB production.
- Design multi-layer PCBs (4 to 12 layers) for motor controllers, sensor boards, and compute modules across our robotics fleet
- Layout boards for our proprietary UMI gripper and DexUMI hand electronics
- Route high speed signals (USB 3.0, MIPI, Ethernet, HDMI) with impedance control and signal integrity
- Design flex and rigid flex PCBs for space constrained gripper assemblies and wearable capture hardware
- Manage thermal design and power distribution for high current motor drive stages in humanoid joints
- Run DFM and DFA reviews, coordinate with fabrication and assembly houses for production scaling
- Generate complete manufacturing outputs: Gerbers, drill files, assembly drawings, pick and place data
- Impedance calculations, stack up design, and signal integrity simulations

Preferred Skills

- Altium Designer / KiCad
- Multi-layer PCB design
- High-speed signal routing & impedance control
- EMI/EMC and power integrity
- DFM/DFA and flex/rigid-flex PCB design

General Job Description

Firmware Engineer

- Develop real-time firmware for robotic motors, sensors, and actuators.
- Develop communication stacks and sensor drivers.
- Build embedded Linux applications and real-time control systems.
- Develop real time firmware for MCUs (STM32, ESP32, RP2040) driving motors, sensors, and actuators in our humanoid and UMI grippers
- Implement communication stacks (CAN bus, EtherCAT, USB, SPI, I2C) for multi node robotic architectures

- Write drivers for IMUs, force torque sensors, encoders, cameras, and depth sensors across the data collection fleet
- Build embedded Linux applications on NVIDIA Jetson and Raspberry Pi for data logging, video streaming, and multi sensor synchronization
- Develop firmware for time synchronized multi camera capture pipelines feeding our foundation model
- Implement real time control loops (PID, impedance, admittance) for dexterous manipulation hardware
- Design bootloaders, OTA update systems, and onboard diagnostics for field deployed robots
- Optimize for low latency deterministic performance in safety critical robotic contexts

Preferred Skills

- C / C++
- STM32, ESP32, RP2040
- FreeRTOS / Zephyr
- CAN, SPI, I2C, UART & USB
- Embedded Linux
- Motor control & actuator interfacing
- EtherCAT / real-time Ethernet

General Job Description

Digital Electronics Engineer

- Design digital circuits for motor control, sensors, and robotic systems.
- Develop FPGA/CPLD solutions for real-time signal processing.
- Support hardware validation and system integration.
- Develop FPGA/CPLD designs for real time signal processing and low latency actuator control in manipulation hardware
- Architect board level electronics for our proprietary UMI grippers and DexUMI dexterous hand systems
- Design interface electronics for cameras, IMUs, force torque sensors, and encoders across the data collection stack
- Prototype and validate electronics for egocentric capture rigs and full body motion capture systems

Preferred Skills

- Verilog / VHDL
- FPGA/CPLD development
- SPI, I2C, UART, CAN, USB & Ethernet
- Digital and mixed-signal design
- Altium / KiCad
- Motor driver and actuator electronics

General Job Description

Computer Vision Engineer

- Develop computer vision solutions for humanoid robots and data collection systems.
- Work on object detection, pose estimation, depth processing, and visual SLAM.
- Optimize vision models for real-time edge deployment.

Preferred Skills
• Python & C++ • OpenCV, PyTorch & NumPy • YOLO / DETR • Camera calibration & 3D vision • ROS / ROS2 • NVIDIA Jetson / edge deployment • Visual SLAM & pose estimation

General Job Description
Python Systems Engineer • Design, develop, and debug multithreaded and multiprocessing Python applications. • Implement and optimise IPC mechanisms, including sockets, queues, and shared memory. • Wrap synchronous Python code with asynchronous interfaces where required. • Develop Python-based CLIs and REST APIs for system control and communication. • Work across large, modular Python codebases and contribute to scalable microservices. • Implement communication using gRPC and Protocol Buffers. • Interface with hardware using protocols such as GPIO, I2C, SPI, UART, and CAN bus. • Use Git, GitHub, and CI/CD pipelines for development and deployment workflows. • Operate efficiently within Linux environments, using shell tools (SSH,scripting, etc.).

Preferred Skills
• C / C++ / Rust • Low-level hardware interaction • Embedded systems or IoT exposure • Microservices architecture and deployment • gRPC and Protocol Buffers (protobuf) • CI/CD workflows and GitHub Actions • Linux shell scripting and remote system management

Eligibility
B.Tech/Management/Commerce/IT
Specialization **BCA, MCA, BBA, MBA, B.COM, CSE**
Fresher

Job Reviewed by: Senior Director, Training & Placement
Job Approved by: Senior Director, Training & Placement
Job opportunity provided through: Training and Campus Placement Department

DATE:-02.06.2026