

M Mukesh Kumar

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🌐 [LinkedIn](#) | 🌐 [Blog](#) | 📁 [Project Portfolio](#)

Core Technical Skills

Programming:

- C, C++, Embedded C, Python, Bash Scripting, PLC Ladder Logic, Verilog

Microcontrollers & Platforms:

- STM32, ESP32, AVR (ATmega, ATtiny), ARM Cortex-M, Raspberry Pi, Arduino

Operating Systems & Firmware:

- Embedded Linux, FreeRTOS, Firmware Development, Linux Device Drivers

Interfaces & Protocols:

- UART, SPI, I2C, CAN, Modbus, MQTT, ESP-NOW

Tools & IDEs:

- Neovim, Keil µVision, Atmel Studio, Xilinx, Arduino IDE, Git, Makefiles, Docker

PCB Design & Prototyping:

- KiCAD, EasyEDA, Soldering, Breadboarding

CAD / 3D Modelling Tools:

- Fusion 360, Onshape, Fritzing, Proteus

Software & Backend:

- Frontend/UI: Flutter (IoT/Robotics cross-platform app development)
- Cloud & IoT Platforms: Google Firebase, Amazon IoT Core, HiveMQ
- Databases: MongoDB, MySQL
- Integration: RESTful APIs, Webhooks

Industrial Automation & Interfaces:

- SCADA Systems, HMI Design, PLC Programming
- Industrial sensor/actuator interfacing, automation panel prototyping

Skills

- Product Lifecycle Management
- Embedded Debugging & Testing
- Cross-functional Team Collaboration
- Client Engagement & Demo Preparation
- Mechatronics (Sensors, Actuators, Mechanisms, Automation Systems)
- Android App Development using Flutter (IoT Device Integration)
- PCB Design and Hardware Prototyping
- Innovation Management and Prototype Development
- Technical Evaluation and Mentorship

Experience

Director Technical | Focalpreneur Technologies and Services Pvt Ltd

Berhampur, Odisha | May 2022 – June 2025

- Leading strategic product development initiatives in Robotics, IoT, and Embedded Systems.
- Managing operations, innovation planning, and technology roadmap for new products.
- Guided startup projects from conceptualization to MVP.

Key Projects:

- IronXpert – AI-Based Smart Ironing System
- Chefro – Automatic Cooking Machine
- MediAlert – Smart Medicine Cabinet with WiFi App
- IoT Quadcopter & Smart Home Solutions
- Mecanum Wheel RC Car
- and several more Android, IoT, and embedded projects.

Chief Technology Officer | Xioty Solutions Pvt. Ltd

Bhubaneswar, Odisha. | Nov 2019 – Feb 2022

(Startup tenure – equity-based role without monthly salary)

- Led the design and development of IoT-enabled embedded and mechatronic systems using STM32, ESP32, Atmel microcontrollers, and Linux device drivers.
- Built solutions involving sensor and wireless interfacing, real-time control systems, Flutter-based mobile apps, and SCADA/HMI platforms.
- Defined technical architecture, managed prototype cycles, and mentored junior developers.
- Delivered multiple full-stack hardware-software products, including SCARA robotic arms, wearable devices, and automation modules.
- Received formal experience letter recognizing role and contributions.

Key Projects:

- Xshock Smart Watch – Motion-Based Alarm Band
- Automatic Medicine Dispenser
- Pump Controller – Water Automation System
- Chefro (Early Prototype)
- Radar Warning System (LED-Based Visual Alerts)
- and several more Android apps, and IoT projects..

Education

B.Tech – Electronics and Telecommunication Engineering

Parala Maharaja Engineering College (PMEC), Berhampur | 2022

Diploma – Mechatronics Engineering

Nettur Technical Training Foundation (NTTF), Berhampur | 2017

Certification and Vocational Training

Certification – Very Large Scale Integration (VLSI) Design

Central Tool Room & Training Centre (CTTC), Bhubaneswar | 2018

Focus: Basics of VLSI, Layout Design using Microwind, VHDL & Verilog Programming, Configuring PLDs (Spartan, Virtex, Cyclone), FPAA Configuration, Microcontroller Basics.

Vocational Training – Industrial Operations

Steel Authority of India Limited (SAIL), Rourkela Steel Plant | 2018

Focus: Industrial training on plant automation, steel processing systems, and operational maintenance. (June 2018)

Patents

IronXpert – AI-Based Automatic Ironing System

- Indian Patent Office (Published, pending expert technical evaluation).
- Automated, intelligent ironing system with smart fabric detection and modular technology.

Honors and Awards

- Chief Guest – Professional Workshop Meet on "Start-up In Smart Pace", Presidency College, Konishi, Berhampur.
- Felicitation at Startup Alumni Conclave 2K24, PMEC, Berhampur.
- Felicitation at Startup Alumni Conclave 2K23, PMEC, Berhampur.
- External Invigilator – Final Year Project Evaluation, NTTF Institute, Gopalpur.

Languages

English (Fluent), Hindi (Fluent), Telugu (Native), Odia (Fluent)