Pranjal Mahat

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SUMMARY

A passionate Biomedical Engineering student dedicated to applying engineering principles in healthcare innovation and medical technology. Strongly motivated to design and develop biomedical systems that enhance patient care, medical safety, and diagnostic accuracy. Known for curiosity-driven learning, teamwork, and practical problem-solving skills in biomedical environments.

WORK EXPERIENCE

Internship – Biomedical Engineer   Birat Medical College Teaching Hospital — Jan 2025

– Completed a 15-day intensive internship in biomedical equipment management and maintenance.
– Gained in-depth understanding of medical device operation, calibration, and troubleshooting across departments including ICU, Operation Theatre, and General Ward.
– Assisted engineers in preventive and corrective maintenance of equipment such as ventilators, ECG monitors, defibrillators, and infusion pumps.
– Participated in documentation and compliance processes related to biomedical waste management and regulatory standards.
– Collaborated with multidisciplinary teams—engineers, doctors, and nurses—enhancing communication, teamwork, and technical decision-making skills.
– Learned procurement, installation, and safety inspection protocols for hospital biomedical devices.

EDUCATION

Sep 2023 – Oct 2027	**KPR Institute of Engineering and Technology, TamilNadu, India** B.E. in Biomedical Engineering	*(CGPA: 8.85/10.)*
Aug 2021 – Feb 2023	**Arniko Awasiya School, Biratnagar** +2 Science	*(CGPA: 3.24/4.0)*

PROJECTS

SpO2 Monitoring using IoT

– Real-time IoT system for monitoring blood oxygen saturation and heart rate.
– Sensors and microcontrollers collect, analyze, and upload data to the cloud.
– Remote health tracking and alert notifications for critical oxygen levels.
– Efficient and affordable solution for rural healthcare settings.

Portable Patient Monitor

– Compact device to monitor vital signs like heart rate, SpO2, and body temperature.
– Sensor modules integrated with microcontroller-based data processing.
– Readings displayed on portable screen with basic alarm functionality.
– Low-cost solution for clinics and emergency use.

Wireless Hospital Call System

– Wireless system for patients to alert medical staff efficiently.
– RF modules connect patient units to a centralized nurse station receiver.
– Enhanced hospital communication efficiency and reduced patient waiting times.
– User-friendly interface and easy installation.

Voice Controlled Light System

– Home-automation prototype using voice commands for on/off control.
– Google Assistant integrated with IoT microcontrollers for real-time operation.
– Energy-saving and accessibility for disabled users.
– Low-cost and scalable automation design.

Vaccination Reminder App

– Android-based app to track vaccination schedules for children and adults.
– Push notifications for upcoming vaccination dates.
– Secure storage with simple and intuitive interface.
– Promotes healthcare awareness and timely immunization.

Hospital Equipment Management App

– Application for managing hospital biomedical equipment data and service logs.
– Tracks maintenance, calibration, and repair history.
– Enhances hospital efficiency and reduces equipment downtime.
– Supports data-driven decision making for biomedical departments.

SKILLS

Technical Skills

- Biomedical equipment handling, calibration, and maintenance.
- MATLAB, Tinkercad, Falstad, Arduino.
- Biomedical instrumentation, signal processing, and sensor interfacing.
- Circuit design, prototyping, and hardware integration.
- Basic Python, IoT, and data acquisition systems.

Professional Skills

- Strong adaptability and quick learning ability.
- Excellent teamwork and interdisciplinary collaboration.
- Documentation, presentation, and technical writing proficiency.
- Analytical problem-solving and time management.