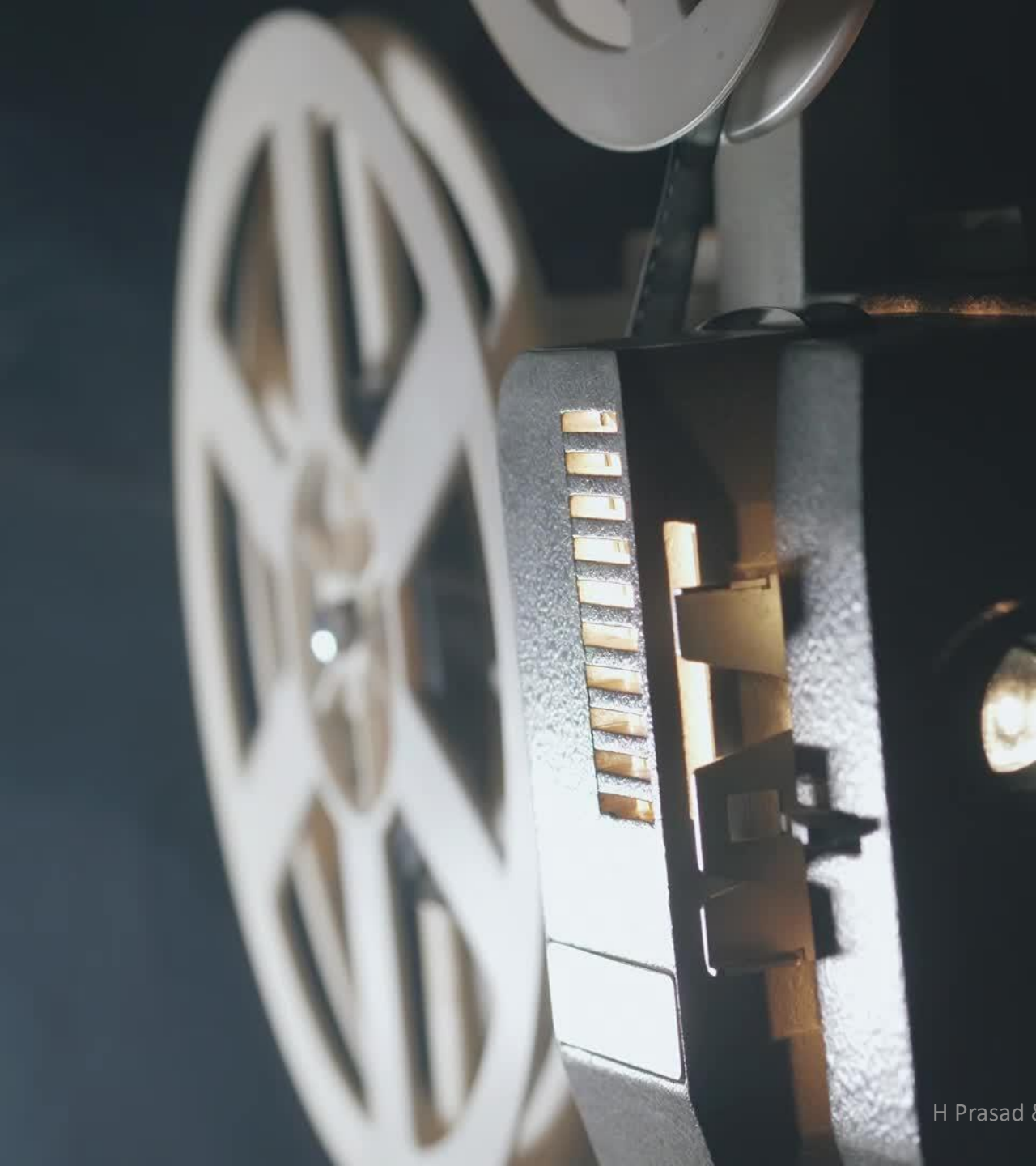


Smart Cooling Robot for Homes

Mr. Himanshu Prasad and Dr Kabita Sarkar



Functions of the Robot

- **1. Temperature Monitoring**
 - The robot moves around the room and continuously measures temperature and humidity using sensors.
- **2. Automatic Curtain Control**
 - When sunlight enters the room, the robot automatically closes curtains or blinds to reduce heat gain.
- **3. Smart Ventilation**
 - The robot detects cooler outdoor air and opens windows or turns on exhaust fans at the best time.
- **4. Portable Cooling Assistance**
 - The robot carries a small fan or misting system and directs cool air toward occupied areas instead of cooling the entire room.



Functions of the Robot

- **5. Heat Source Detection**

- It identifies appliances (computers, lights, chargers) generating excess heat and reminds users to switch them off.

- **6. Plant Care**

- The robot waters indoor plants, which can contribute slightly to cooling and improve indoor air quality.

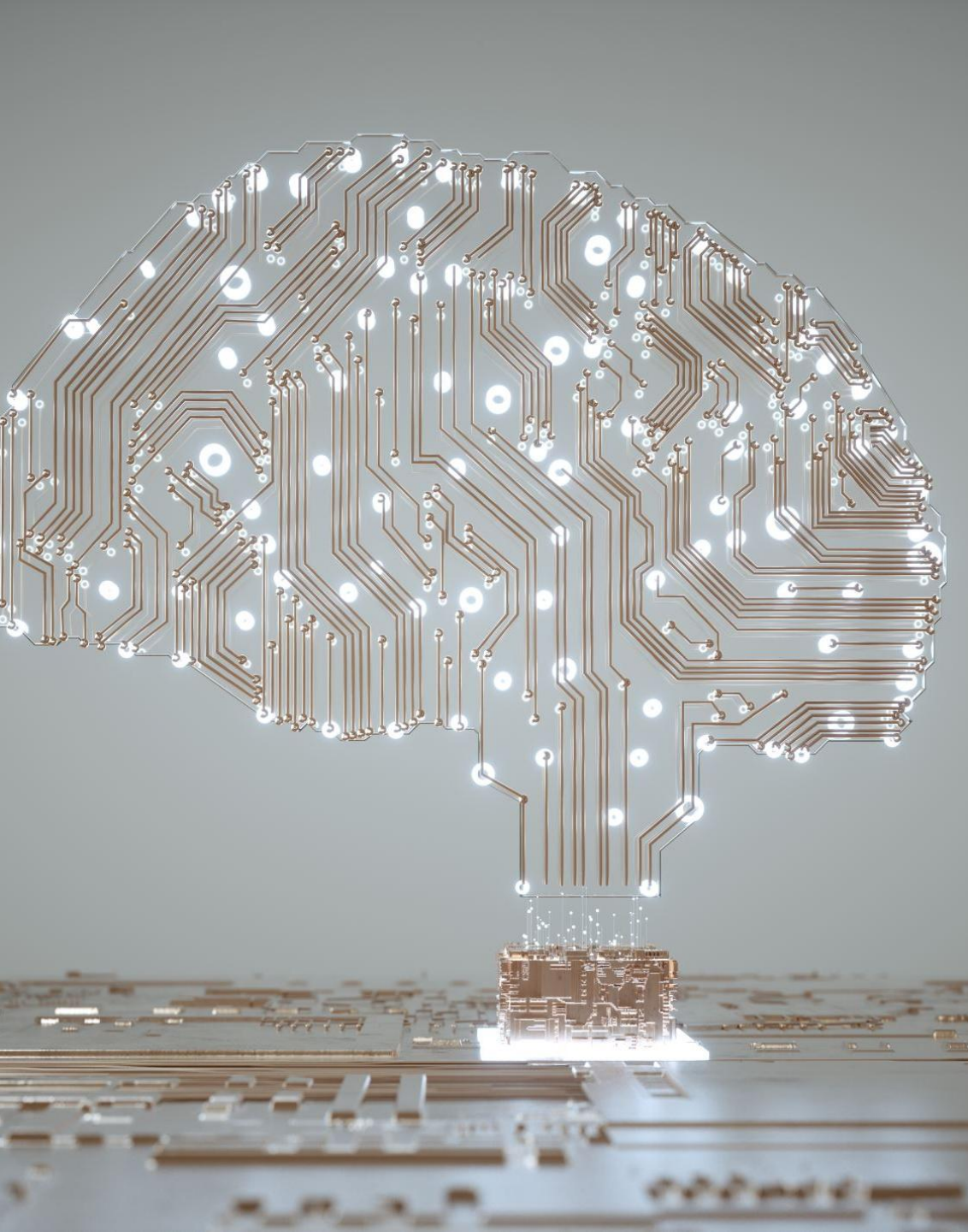
- **7. Roof and Wall Cooling**

- In an advanced model, the robot could control rooftop water sprinklers or reflective shade panels to reduce heat absorption.

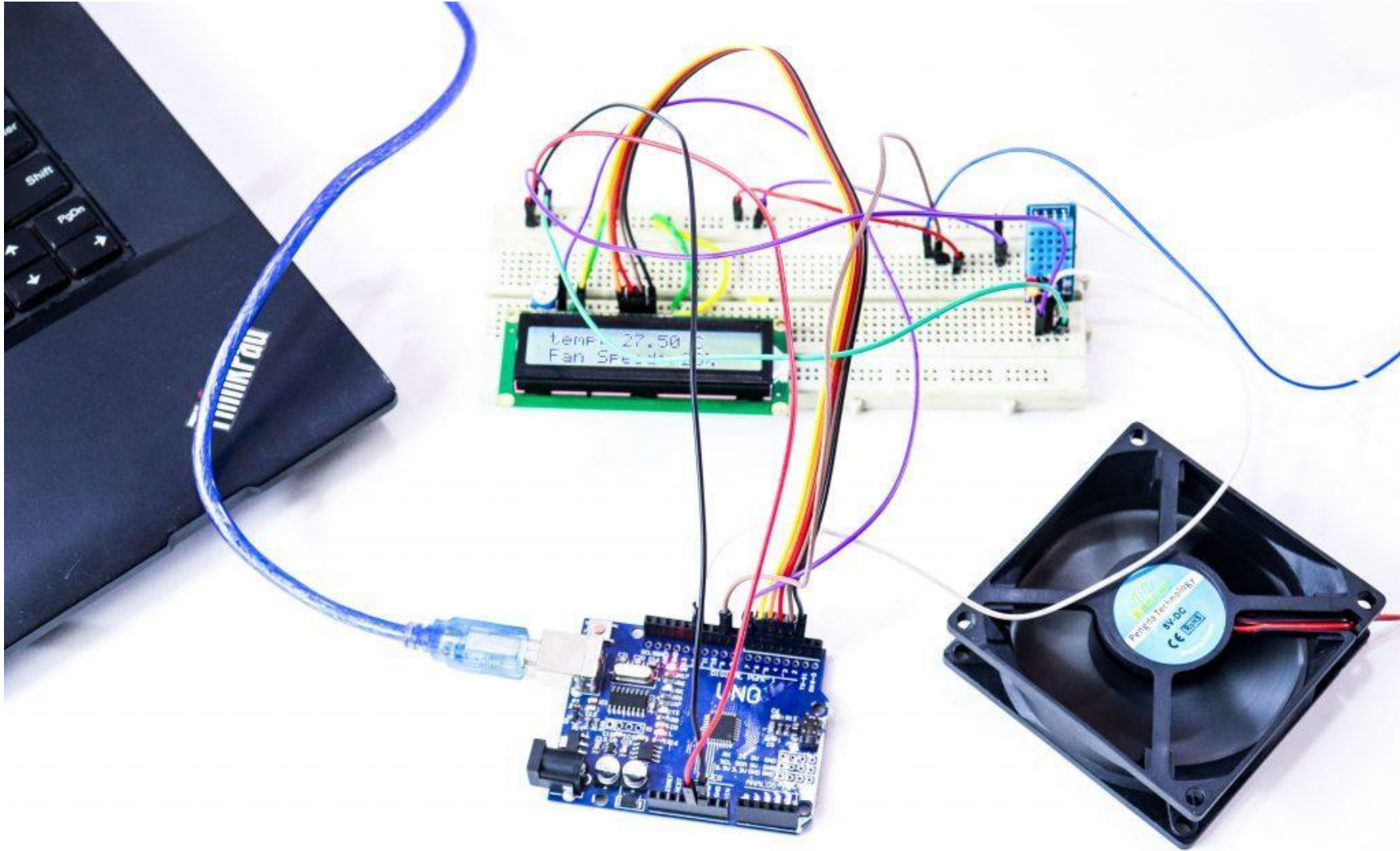


Materials for a Model

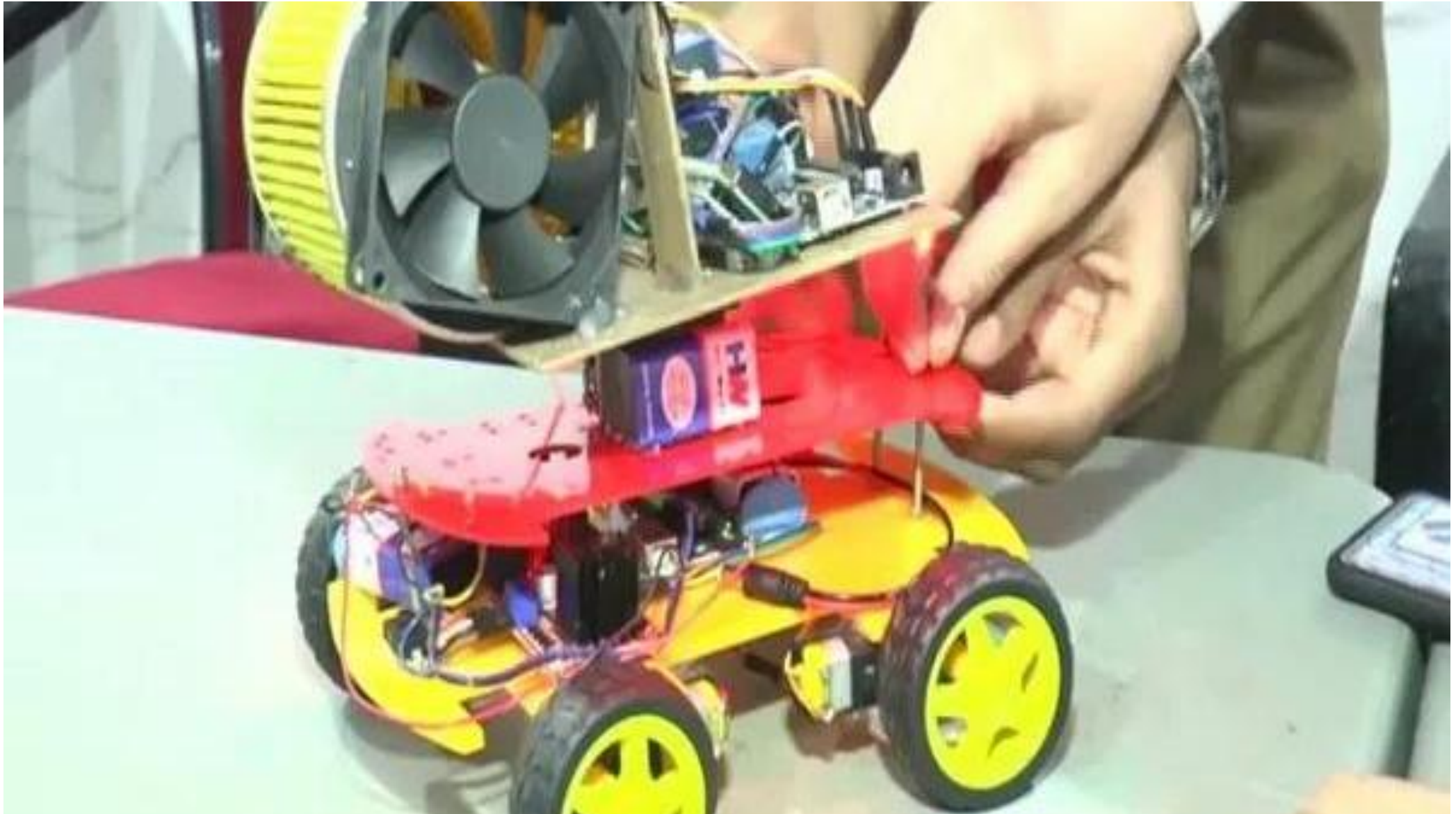
- Arduino or ESP32
- Temperature and humidity sensor (DHT11/DHT22)
- Small robotic car chassis
- Servo motors
- Mini fan
- Bluetooth/Wi-Fi module
- Cardboard room model



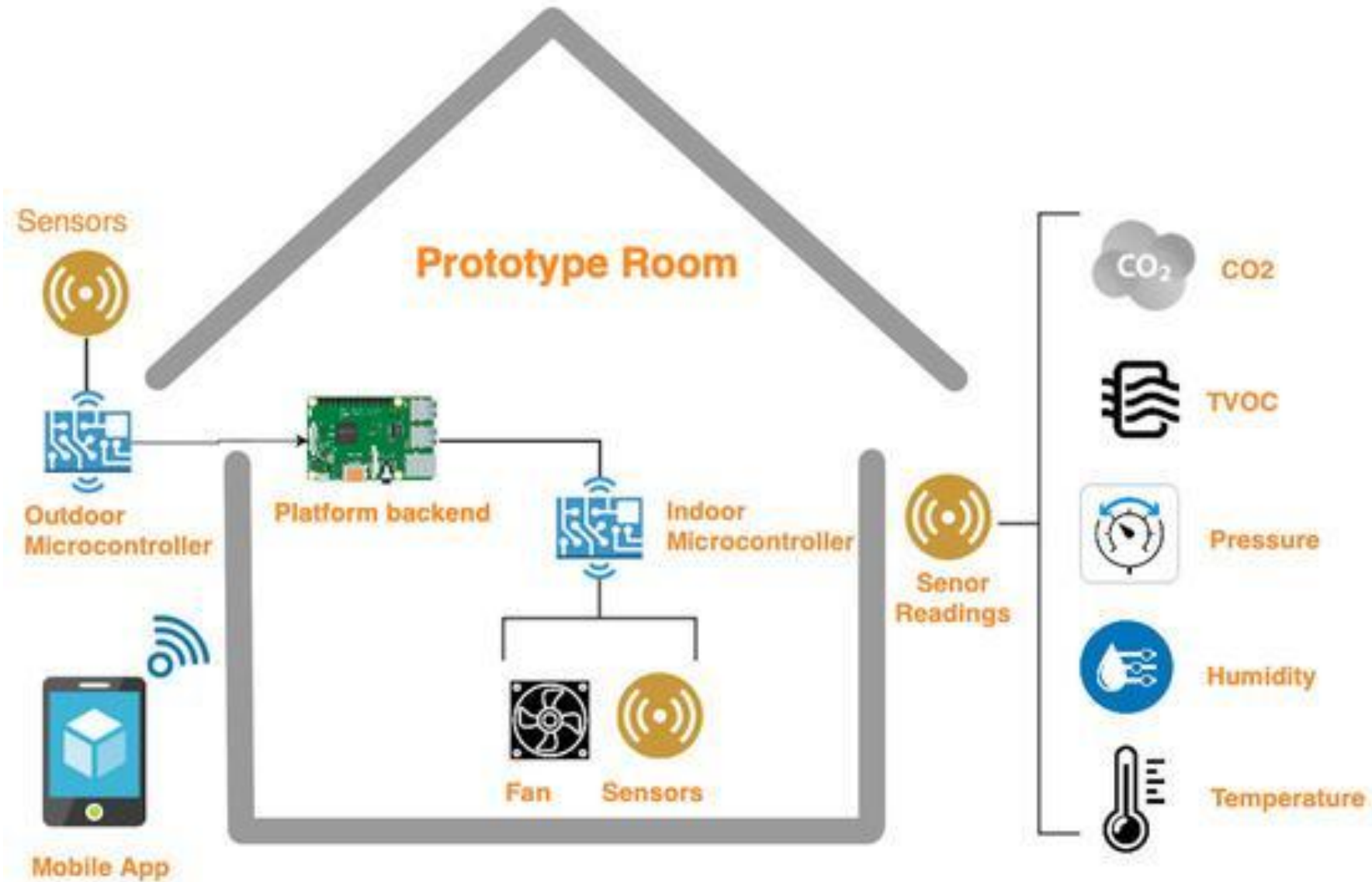
- **Scientific Concepts**
- Heat Transfer
- Internet of Things (IoT)
- Artificial Intelligence
- Energy Conservation
- Automation

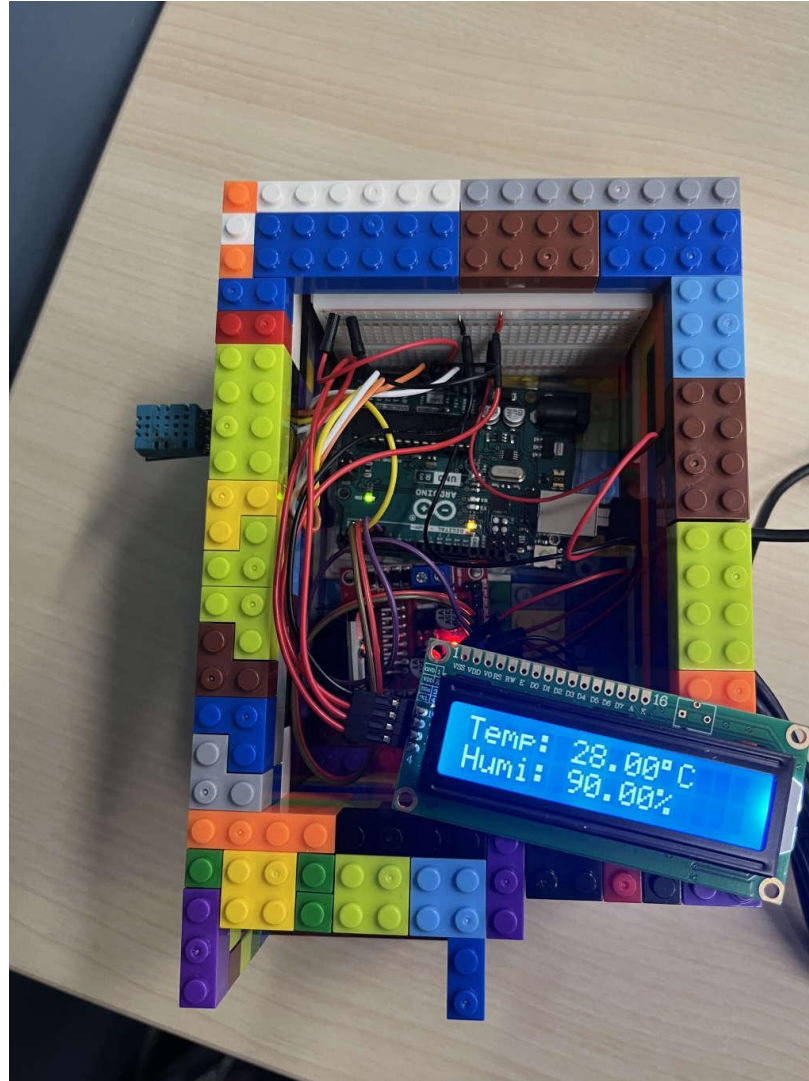


A conceptual appearance could look like this:



H Prasad & K Sarkar





H Prasad & K Sarkar

Employment Angle

Such robots could create jobs in:

- Robotics design and manufacturing
- Sensor development
- Smart home installation
- AI and automation services
- Maintenance and repair of intelligent cooling systems

Thank You
"Stay Cool, Save Energy, Save Money!"