

NetrOn: Smart Vehicle Health Guardian

1 Introduction

NetrOn is a compact, intelligent, and affordable IoT-based guardian for your two-wheeler (bike or scooter). Acting like a health monitor, it keeps a watchful eye on your vehicle's **engine temperature, vibrations, and battery condition**, alerting you **before** small issues turn into **expensive repairs or breakdowns**.

Think of it as your vehicle's **digital "Netra"** —**always on, always alert**.

2 Why NetrOn? (The Problem & Solution)

Current Problem:

- Most two-wheelers in India **lack basic health diagnostics**.
- **Overheating, battery drops, or abnormal engine vibrations** go unnoticed until the vehicle fails.
- Repair costs are higher when issues aren't caught early.

NetrOn's Solution:

- Detects issues *before* they become serious.
 - Sends real-time **alerts** via Bluetooth to your phone or PC.
 - Made with everyday, low-cost components and easy-to-use app interface.
 - Enables *predictive maintenance*—**peace of mind for riders**.
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3 How NetrOn Works

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[Sensors] → [Arduino] → [Bluetooth] → [Mobile/Web App] → [User Alerts]

Sensors monitor:

-  **Temperature** (LM35)
-  **Vibration** (ADXL345)
-  **Voltage** (Voltage divider)

 **Bluetooth Module (HC-05)** sends data to:

- A mobile or web dashboard that:
 -  Shows real-time values
 -  Issues alerts like "*Engine Overheating!*" or "*Low Battery!*"
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Who Can Use NetrOn?

-  **Bike/Scooter Owners** – Wanting peace of mind
 -  **Local Mechanics & Shops** – For faster diagnostics
 -  **Rural Technicians** – Empowering small-town repair with smart tools
 -  Anyone who wants **safe, reliable rides** without surprises
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What the User Will Experience

- ✓ Attach the compact NetrOn box to your two-wheeler
 - ✓ Open the dashboard on your phone or computer
 - ✓ View real-time readings for engine temperature, vibration, and battery
 - ✓ Get instant alerts like:
 - "⚠ Engine Overheating!"
 - "⚠ Battery Low!"
 - ✓ Take timely action → **Avoid breakdowns, save repair costs, and extend your vehicle's life**
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Pitch Boost – Why This Matters

"NetrOn transforms regular two-wheelers into smart machines—by empowering users to take control of their vehicle's health through real-time, affordable diagnostics."

Scalability & Future Scope

-  **Modular Design** – Can scale to electric scooters or 4-wheelers
-  **Add GPS** – Enable theft tracking & location-based service alerts
-  **Solar Powered Option** – Sustainable use in off-grid or rural areas
-  **Machine Learning Models** – Predict component failure before symptoms show

-  **Mechanic Integration** – Share data with garages for remote diagnostics
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Impact Highlights

-  Projected to **reduce up to 40% of emergency vehicle breakdowns**
 -  Saves ₹500–₹3000 per year per rider in unexpected repairs
 -  Potential to benefit **over 200 million two-wheeler owners in India**
 -  Creates a new market for **digital-first mechanic tools** in tier-2/3 cities
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Summary

NetrOn is your vehicle's silent guardian—watching, analyzing, and alerting you in real time. It's **low-cost, impactful, and scalable**, with the power to **revolutionize vehicle care for millions** of everyday riders across India.

 **Smart Ride. Safe Ride. NetrOn Inside.**  



NetrOn: What It Is, What It Solves, and What It Does

NetrOn is a **low-cost smart health monitoring system** for two-wheelers like bikes and scooters. It's a compact device that continuously tracks key vehicle health indicators—**engine temperature, vibrations, and battery voltage**—and sends **real-time alerts** to your phone via Bluetooth.



What Problem It Solves

Most two-wheelers, especially in India's middle-class and rural areas, lack any **early warning system** for internal issues. As a result:

- Overheating goes unnoticed until it causes engine damage
- Low battery leads to sudden breakdowns
- Abnormal vibrations (from loose or worn parts) go undetected, causing accidents or higher repair costs

These problems result in **expensive repairs, sudden breakdowns, and safety risks**—all avoidable if detected early.



What NetrOn Does

- **Reads sensor data** from the vehicle in real-time (temperature, vibrations, battery)
 - **Sends alerts to the user's phone** via Bluetooth if anything crosses a danger threshold
 - **Helps owners take preventive action** before a breakdown happens
 - Can be used by **individuals, mechanics, and small repair shops** for quick diagnostics
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Impact

NetrOn gives vehicle owners—especially those from cost-conscious backgrounds—**peace of mind, safety, and savings**. It turns a basic two-wheeler into a **smart vehicle**, all for under ₹1,000.

“Why should anyone buy NetrOn for ₹899?”

What They Get:

A simple, affordable device that **protects their two-wheeler's health**—just like a fitness tracker for their bike or scooter.

Top 5 Reasons It's Worth ₹899

1. Early Problem Detection = Cost Savings

- Detects overheating before engine damage occurs
 - Alerts when battery is weak before it leaves them stranded
 - Catches abnormal vibrations that may signal loose parts or alignment issues
-  *Even one early alert can save ₹2,000–₹5,000 in repairs*
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2. Real-Time Alerts = Peace of Mind

- Your phone shows you live stats: temperature, voltage, vibrations
 - No guessing, no stress—**you know your bike is healthy**
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3. No Need to Visit Mechanic Until You Actually Need To

- Avoid unnecessary checkups or breakdowns
 - Keeps your service schedule smart and timely
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4. Perfect for Middle-Class & Rural Users

- Low cost
 - Easy install (just strap and plug)
 - Works on any two-wheeler—**scooters, bikes, delivery vehicles**
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5. Long-Term Impact

- Extends life of vehicle

- Supports safer rides for college students, workers, delivery guys
 - Prevents breakdowns in remote areas where help is hard to find
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Simple Analogy:

"If ₹899 can give you a safety net for your ₹70,000+ bike and prevent one breakdown, isn't that worth it?"

Even one **missed alert could mean a tow truck, mechanic visit, or lost work day**. NetrOn keeps that from happening.

Final Line:

NetrOn is your two-wheeler's health assistant—always watching silently, warning when needed, and saving you from surprises on the road.