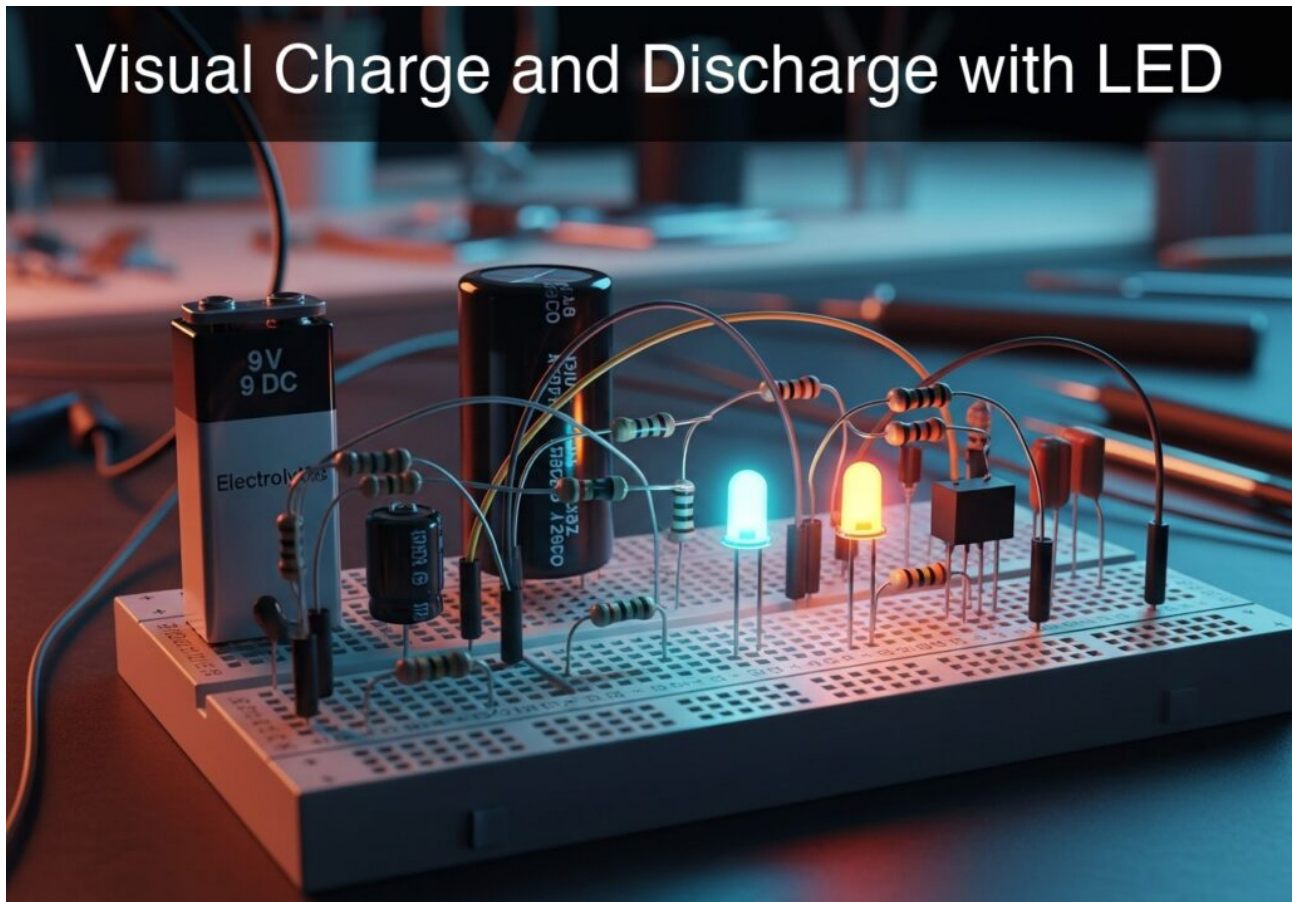


## Practical case: Visual Charge and Discharge with LED

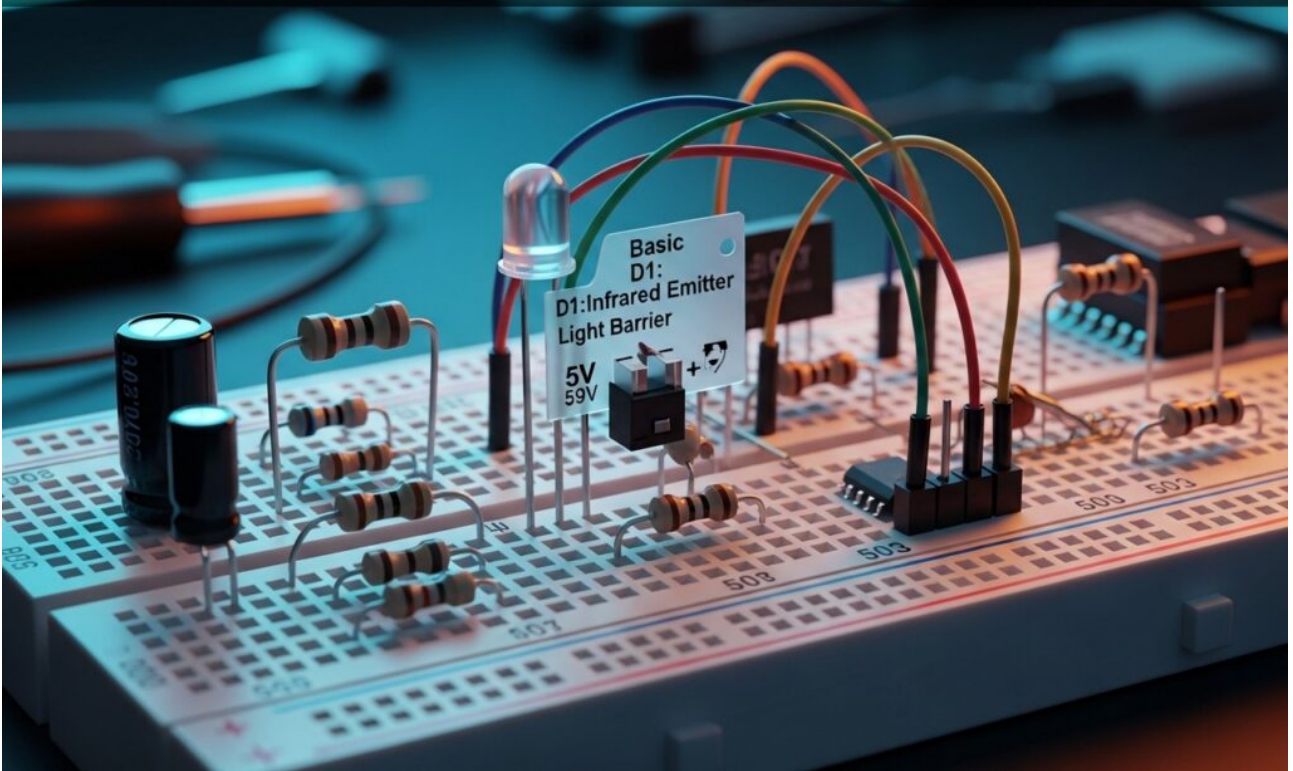


Explore Analog Electronics by building a circuit where a Capacitor keeps an LED fading out after power loss, visualizing energy storage and RC time constants.

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## Practical case: Basic Infrared Light Barrier

# Basic Infrared Light Barrier

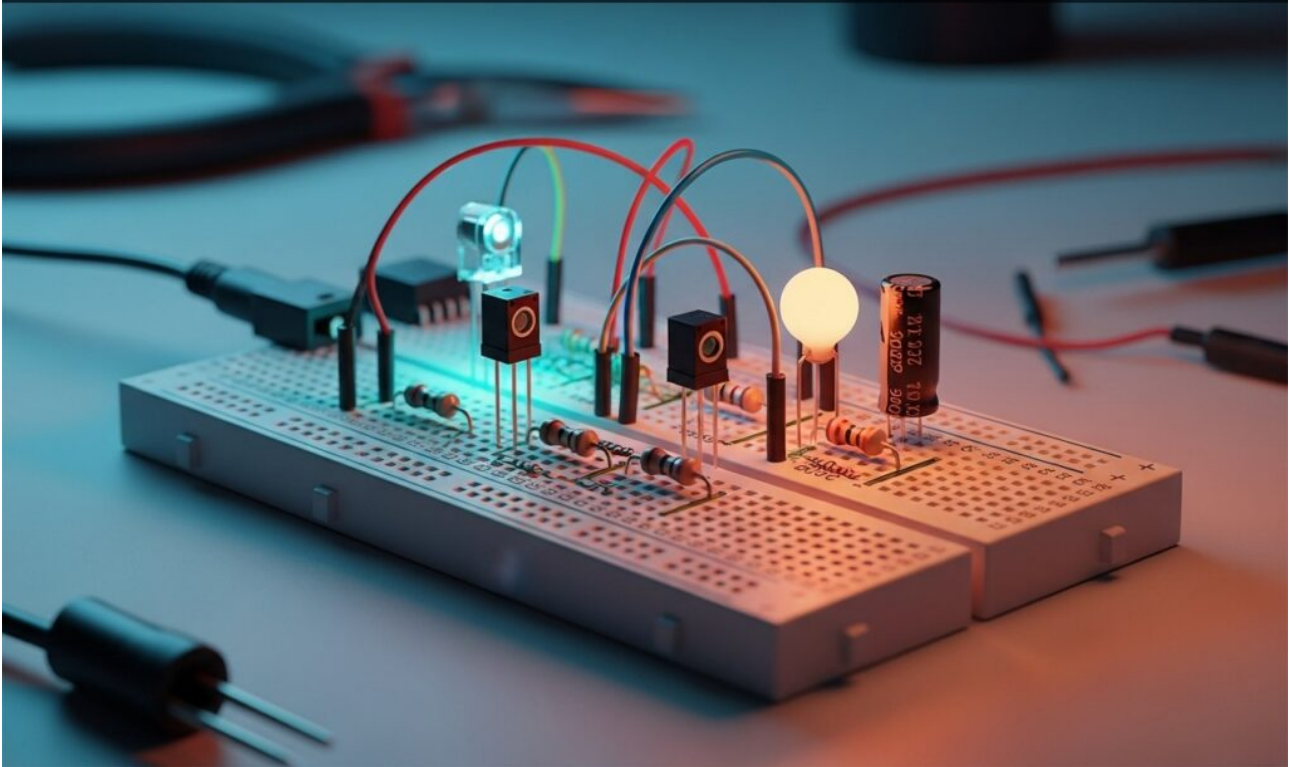


Master Analog Electronics by building a light beam alarm. Use a Photodiode to detect interruptions and trigger a 0.7V signal that lights up a security LED.

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**Practical case: Photodiode vs photoresistor comparison**

# Photodiode vs photoresistor comparison

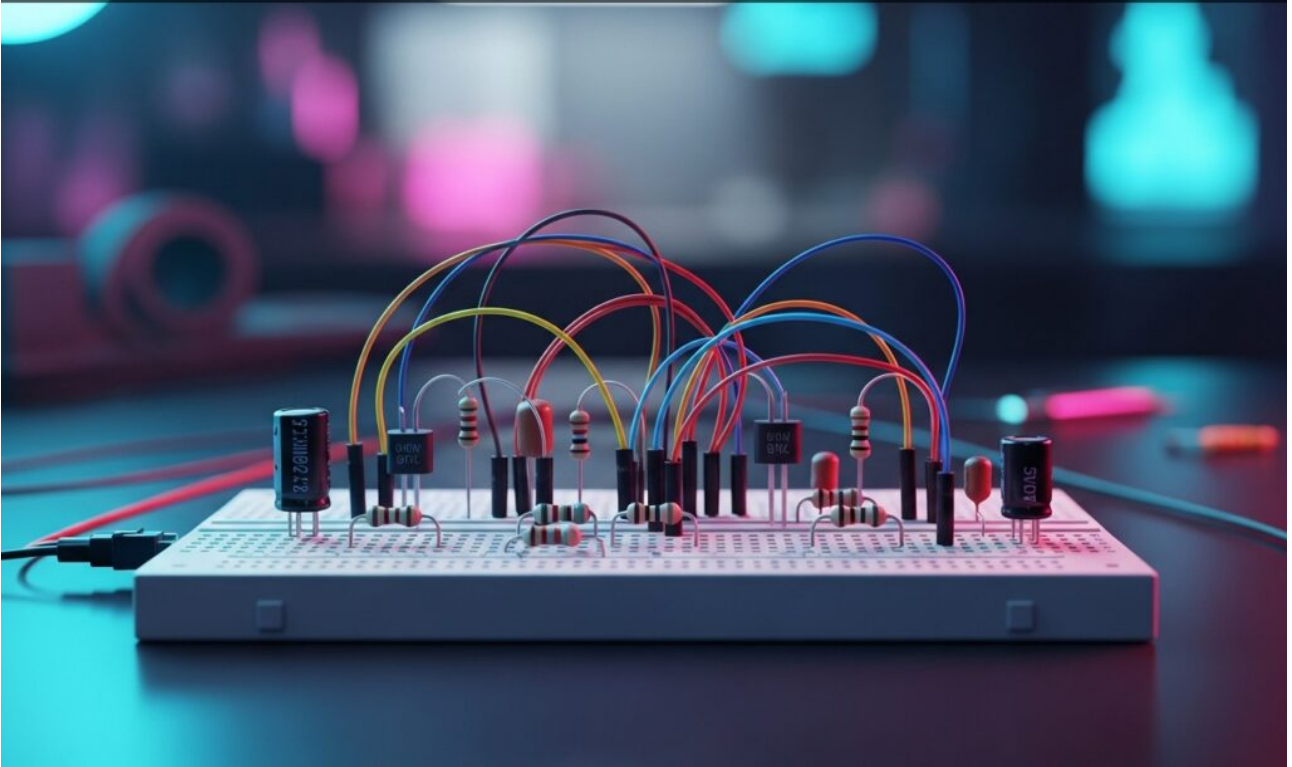


Master Analog Electronics by comparing sensor speeds. Build a circuit using a Photodiode and LDR to observe sharp square waves versus slow voltage curves.

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## Practical case: Simple twilight switch

# Simple twilight switch



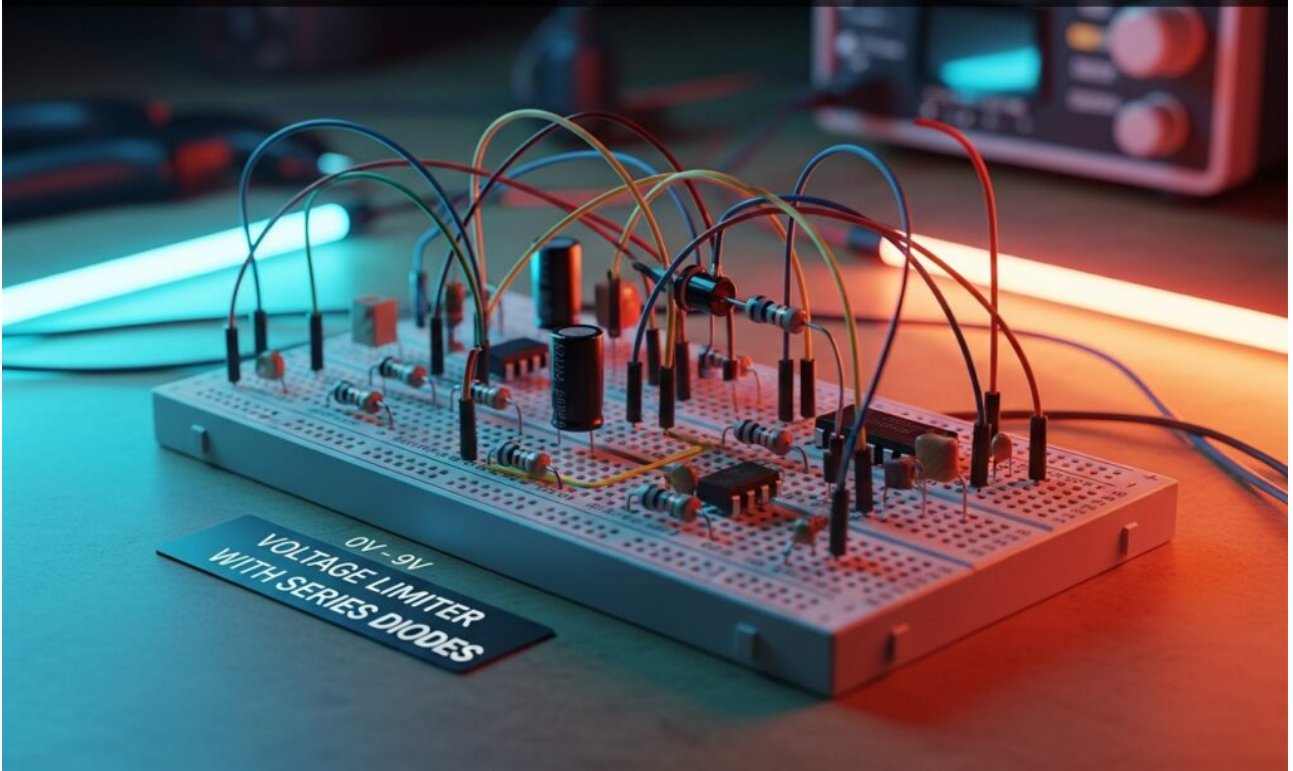
Learn Analog Electronics by building a dark sensor circuit. Use a Photodiode to switch an LED on when light drops, mastering transistor switching logic.

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## **Practical case: Reverse Bias Photodiode Light Detection**



# Voltage limiter with series diodes



Master Analog Electronics by building a voltage limiter with a simple Diode circuit. Protect inputs and clamp signals to 2.1V for safe, stable output results.