September 27th, 2025.
Karur, Tamil Nadu.
Four months ago. Our state. Our people.
A political rally. Thousands gathered to see Vijay launch his party,
 Tamilaga Vettri Kazhagam.
Hope in the air. Flags waving. Families. Students. Fans.
By evening... 41 of them were dead.

Not shot. Not attacked. Not burned.
Crushed. By the crowd standing next to them.

This wasn't somewhere far away.
This was here. This was us. This was four months ago.
And nothing has changed.

Karur wasn't the first. It won't be the last.

2022- seoul 129 dead
2005 — Maharashtra, India. 340 dead.

Kumbha Mela. Hajj. Football stadiums. Religious festivals. Concerts.

Every. Single. Year.

And here's what breaks my heart:
In almost every investigation, the same line appears in the report:
"**The warning signs were there.** *But nobody saw them in time.*"
The crowd got too dense. The flow got blocked. The pressure built up.
And no one knew... until the screaming started.

Here's the terrifying truth most people don't know:

A crowd doesn't need to panic to kill.
It doesn't need to run. It doesn't need to scream.
It just needs... density.

When six or more people occupy a single square meter, the human body cannot expand its lungs.
 You cannot breathe. You cannot scream for help. You are held upright by the bodies around you.
You are conscious. You are aware. And you are slowly dying... standing up.

This is called **compressive asphyxiation**.

And by the time anyone notices... it's already too late.

What if we could see the danger *before* the screaming?

What if we had a system... that watches the crowd... not with human eyes that get tired, distracted, and overwhelmed…

But with sensors.

Dozens of them.
Cheap.
Wireless.
Intelligent.

Sensors that measure one thing: How close are people to each other?
This is Stampede Shield.

A network of low-cost ESP32 microcontrollers. Each one equipped with an ultrasonic distance sensor. Deployed at entry points. Corridors. Choke points. Anywhere crowds form.
Each node measures crowd density in real-time. Centimetre by centimetre. Second by second.

When the crowd is sparse — green light. Safe.
When people start bunching up — yellow warning. Slow down.
When bodies are pressing together — red alert.

And when it crosses the danger threshold?

An alarm. Instant. Loud. Unmistakable.
Not to the security office three buildings away.
Right there. On the spot. Where it matters.

Because in a stampede, you don't have five minutes.
You have five seconds.

"But we have CCTV," "We have security guards.”

Let me tell you what CCTV does.

It records. It documents. It helps us *investigate* the tragedy... after it happens.
It does not prevent. It does not warn. It does not act.
And security guards?
A human being cannot look at a crowd of 10,000 people and feel that the density in Zone C, Row 7 has exceeded 5.5 people per square meter.
A sensor can.
"But this technology must be expensive."

The ESP32 microcontroller costs less than a cup of coffee.
The ultrasonic sensor? Two dollars.
The entire node — including WiFi capability, processing power, and sensors — costs less than a movie ticket.
You could deploy 50 of these for the price of one security camera.
And unlike a camera... it thinks. It calculates. It warns.
This is not science fiction. This is not a prototype on a slideshow.
[Point to device if available.]
This is working. Right now. Sending data. Detecting proximity. Triggering alerts.
We built this. With our hands. In our dorm room. With components you can buy online.
If two college students can build this in a week... imagine what a city, a stadium, a festival organiser could do.

Every year, we hold concerts. We host festivals. We gather in the millions for sports, for faith, for celebration.
And every year... somewhere in the world... a crowd becomes a killer.
Not because people are evil.
Not because organiser's don't care.
But because no one could *see* the danger building.
Stampede Shield changes that.
It gives us eyes where we had none.
It gives us seconds when we had none.
It gives us a chance... to stop the tragedy before it begins.

159 people died in Seoul.
They had names. They had dreams. They had people waiting for them to come home.
They died in a crowd... surrounded by thousands... and no one knew they were in danger.

We cannot bring them back.
But we can make sure... that the next crowd... is watched.
That the next warning... is heard.
That the next tragedy... never happens.
This is Stampede Shield.
And we believe it should be everywhere.

Thank you.