



MechDefect Solutions

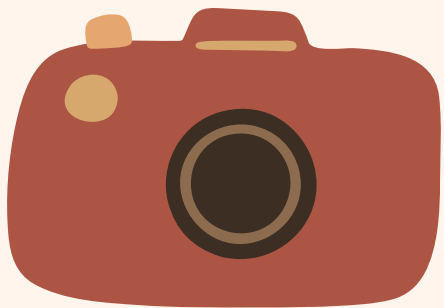
Presented by Group 15

Providing AI solutions for detection of mechanical defects





Our Team



Shraman Santara
21D100019

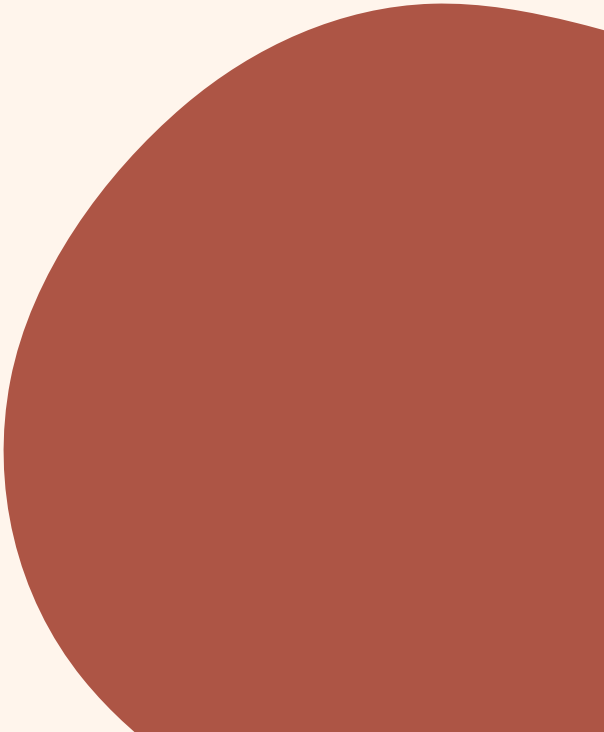
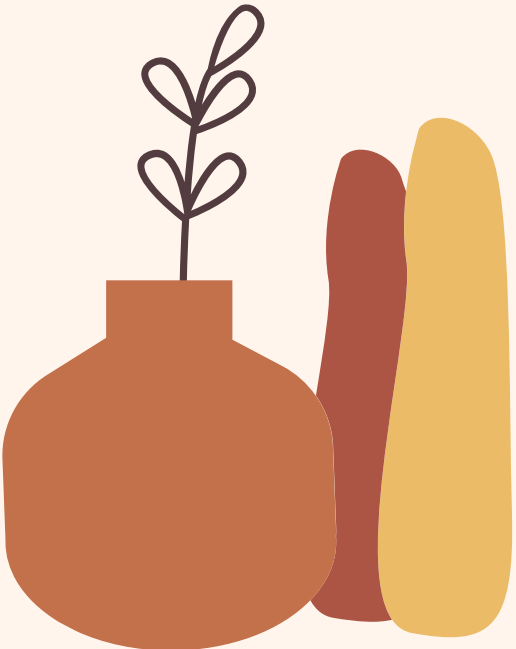
Anand Bhaskar
200100024

Swapnoneel Kayal
200100154

Kanika Banjare
210260027

Varad Patil
22B2270

Date	Duration of Meet	Purpose of Meet	Presentees
4/10/2023	2 hours	Initial Brainstorming and Problem Statement	ALL
5/10/2023	1 hour	Solution Statement and Unique Selling Points	ALL
7/10/2023	2 hours	Finalize Presentation	ALL


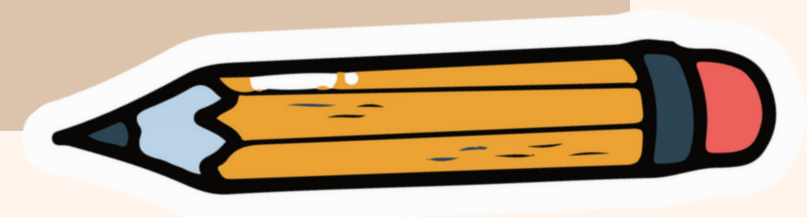


Project Title

Advanced AI-Driven Defect Detection Solutions for
Manufacturing Excellence

This title highlights the company's focus on AI technology for detecting defects in manufacturing processes and emphasizes the goal of improving manufacturing quality and efficiency.

Project Objectives

- 
- Develop AI-powered defect detection and classification solutions for industries that cater to the initial stages of manufacturing
 - Leverage transfer learning by training our model on different processes (like casting, mining, etc.) gaining knowledge from one and applying it to other processes.
- 

Problem Definition

India is the third-largest global manufacturing hub, with basic metal production contributing about 11% to the manufacturing GDP. In 2016, PM Narendra Modi launched "Zero Defect Zero Effect" to reduce manufacturing defects and ecological impacts, but progress stalled due to a lack of technological advancements in early-stage defect identification, such as in raw material production.



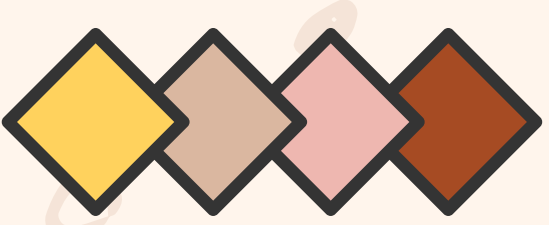
Automation of defect detection with AI in the initial stages of manufacturing hence saving time and manual effort in processes



End-stage manufacturing defect detection with focus on ecological impact reduction

Business-to-Business (B2B)

We will be targeting companies involved in the production of metal-based raw materials like pipe, billets etc



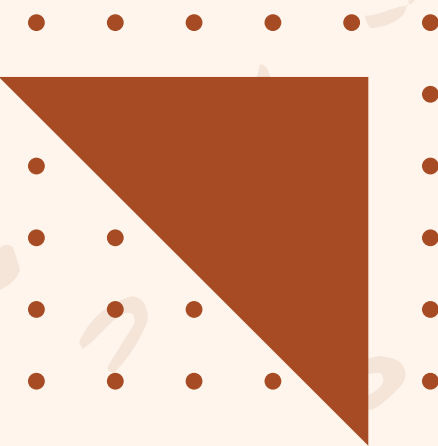
Why Us?



MechDefect Solutions specializes in providing defect detection solutions for companies involved in early-stage manufacturing processes such as casting and rolling. Our expertise is tailored to the specific needs and challenges of this market segment.



We offer cutting-edge defect detection capabilities while prioritising data security. Our solutions employ proprietary encryption and hardware credentials for protection. We are proactive in safeguarding our intellectual property with software patent filings, ensuring innovation and exclusivity.



Major Competitors?

Lincode Labs

- US based startup
- Automotive, Electronics, Pharmaceuticals, Materials & Packing
- Captures microscopic defects
- Future work : Predict machine downtime, likelihood of future defects
- <https://lincode.ai/>

Scortex

- Primarily in Europe
- Inspection and Monitoring solutions
- Automotive, Aeronautics, Luxury items and Consumer goods
- <https://scortex.io/>