

### **Precisely Identified faulty products in Manufacturing Industries through Limited data by using Machine Learning Techniques**

Abstract—Numerous automated labor-saving systems have been created and implemented to lower production costs and enhance product quality. Systems for intelligent visual analysis are now playing a more significant role in production lines. Many deep learning and machine learning techniques were previously used to identify defective products. Still, the models were never tested because they did not produce satisfactory results and had numerous other problems adjusting to sparse and poor-quality data. Also, the deep learning community is facing the limitations of datasets. To address this issue, a deep learning-based customized UNet model was introduced in this proposed work.