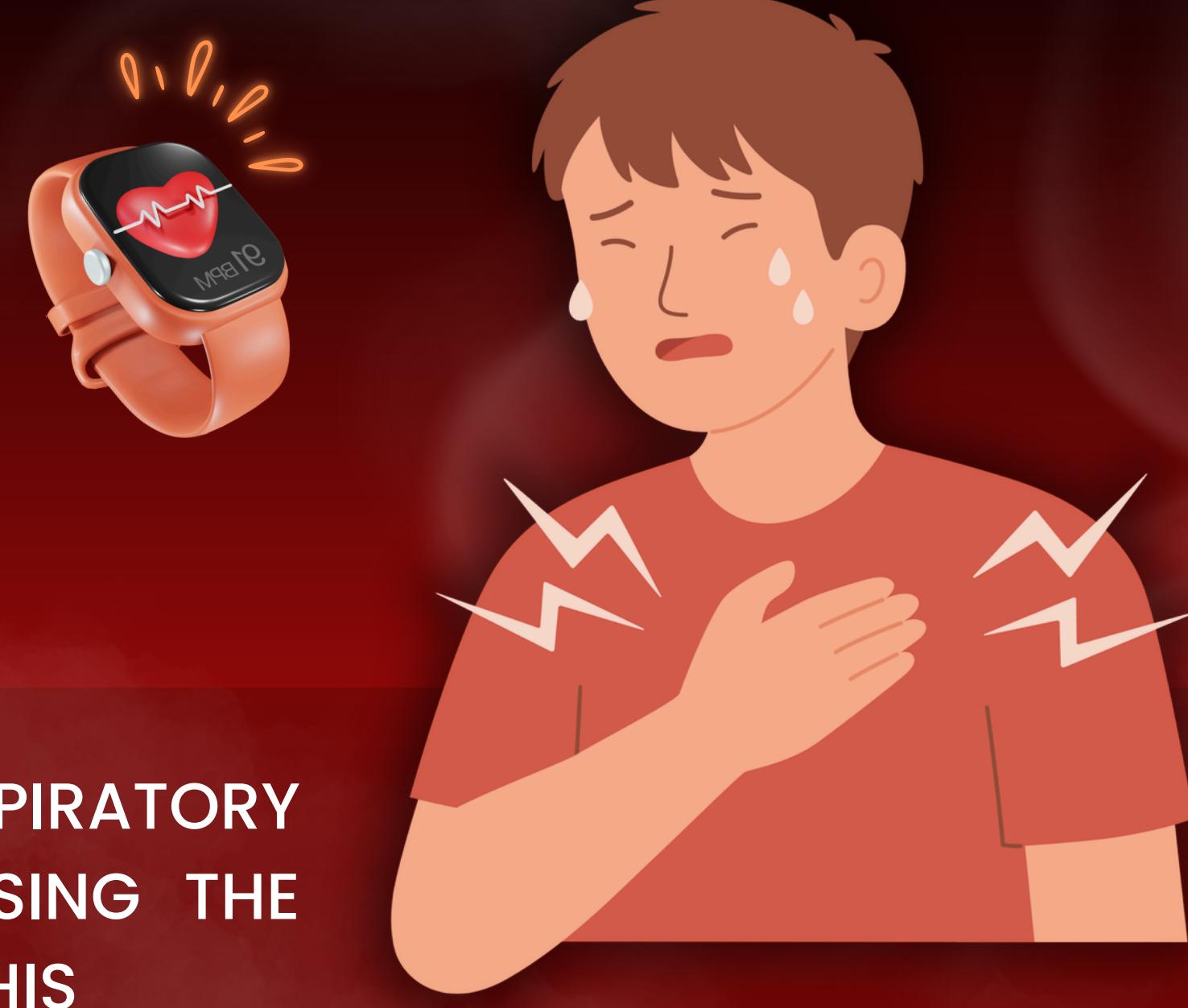


ASTHMA DETECTOR

WATCH U - DETECTION RESPIRATORY DISEASE FROM BREATHING



WATCH U AIMS TO REVOLUTIONIZE THE EARLY DETECTION OF RESPIRATORY DISEASES WITH A CUTTING-EDGE SMARTWATCH SOLUTION. ADDRESSING THE CRITICAL NEED FOR NON-INVASIVE AND EFFICIENT DIAGNOSTIC TOOLS, THIS PROJECT LEVERAGES RESPIRATORY SOUND DATASETS SOURCED FROM REPUTABLE ONLINE REPOSITORIES.

OUR COMPREHENSIVE ANALYSIS REVEALED THAT THE 1D CNN SIGNIFICANTLY OUTPERFORMED THE TRADITIONAL NEURAL NETWORK ALGORITHM, ACHIEVING AN IMPRESSIVE 92% SUCCESS RATE IN DISEASE RECOGNITION.

12 + MILLION

ASTHMA PATIENTS IN INDONESIA IN 2020

262 + MILLION

ASTHMA PATIENTS IN THE WORLD IN 2020

80% CAUSES

80% OF PEOPLE WITH ASTHMA HAVE ALLERGIES TO THINGS IN THE AIR ; TREES, GRASS, FLOWER POLLEN, MOLD

RESEARCH CONDUCTED BY THE NATIONAL HEALTH INTERVIEW SURVEY USING THE ISAAC (INTERNATIONAL STUDY ON ASTHMA AND ALLERGY IN CHILDREN)



QUESTIONNAIRE STATES THAT THE ABSENCE OF PROPER TREATMENT FOR ASTHMA CAN POTENTIALLY CAUSE DEATH (OLIVEIRA ET AL., 2022).



SOLUTION

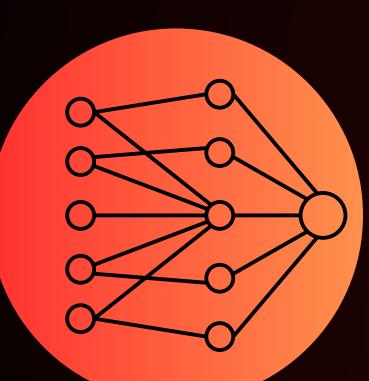
THE BOMLA DETECTOR AS ONE OF THE KEY SYSTEMS (AWAL ET AL., 2021) . STUDIES HAVE SHOWN THAT THE BOMLA DETECTOR HAS SIGNIFICANT POTENTIAL AS A DISEASE DETECTION TOOL DOE TO ITS HIGH ACCURACY AND STRONG CORRELATION WITH ASTHMA PATIENTS WHEN AN ENSEMBLE TECHNIQUE IS ADAPTED, BECAUSE OF THAT WE MAKE AN ASTHMA SMART WATCH.



CNN 1D

92 % ACCURACY

CONVOLUTIONAL NEURAL NETWORK



RNN

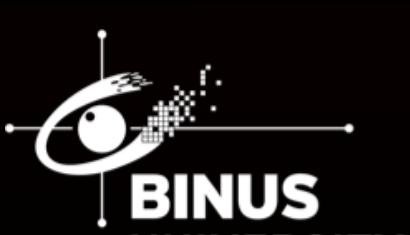
90 % ACCURACY

RECURRENT NEURAL NETWORK



**WATCH U CARE
ABOUT YOU**

YOUR LIFE IS MADE EASIER WITH A SMARTWATCH THAT NOT ONLY TRACKS YOUR HEALTH.



JIMMIE HENDERSON GUNAWAN



CECILLIA TJUNG



EKO SETYO PURWANTO, S.PD., M.KOM.



MUHAMAD KEENAN ARIOS, S.KOM, M.KOM.

SOURCE AND REFERENCES

