KAMARAJ COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
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MINI TECHNOVISION 2K25
Poster Presentation

AnemoScan

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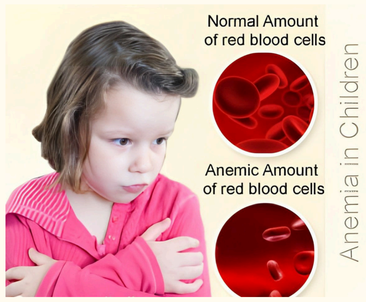
PROJECT ID : IT05

↓ MOTIVATION ↓

"To aid WHO's 2030 goal by enabling early, AI-based anemia detection through conjunctiva image analysis."

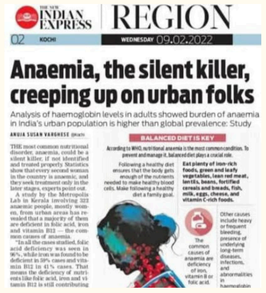


↓ PROBLEM STATEMENT ↓

Global Burden: 1.2 billion affected by iron deficiency anemia (IDA).

Diagnostic Barriers: Invasive blood tests are costly and inaccessible in rural areas.

Healthcare Gaps: Lack of trained professionals delays early detection.


THE INDIAN EXPRESS | REGION
KOCHI WEDNESDAY 09.02.2022

Anaemia, the silent killer, creeping up on urban folks

Analysis of haemoglobin levels in adults showed burden of anaemia in India's urban population is higher than global prevalence: Study

ANUJA SUSAN VARGHESE

BALANCED DIET IS KEY


51% of Indian women aged 15-49 anaemic, most in world: Study

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New Delhi: Women's health in India is facing a serious nutritional challenge, with the country on the one hand grappling with the largest number of anaemic women in the world and on the other having to deal with diseases linked to obesity which is rapidly increasing among the fairer sex.

Findings of the new Global Nutrition Report 2017 place In-

'1 IN 5 INDIAN WOMEN OBESE'

India above China, Pak, Nigeria & Indonesia in terms of no. of women affected by anaemia

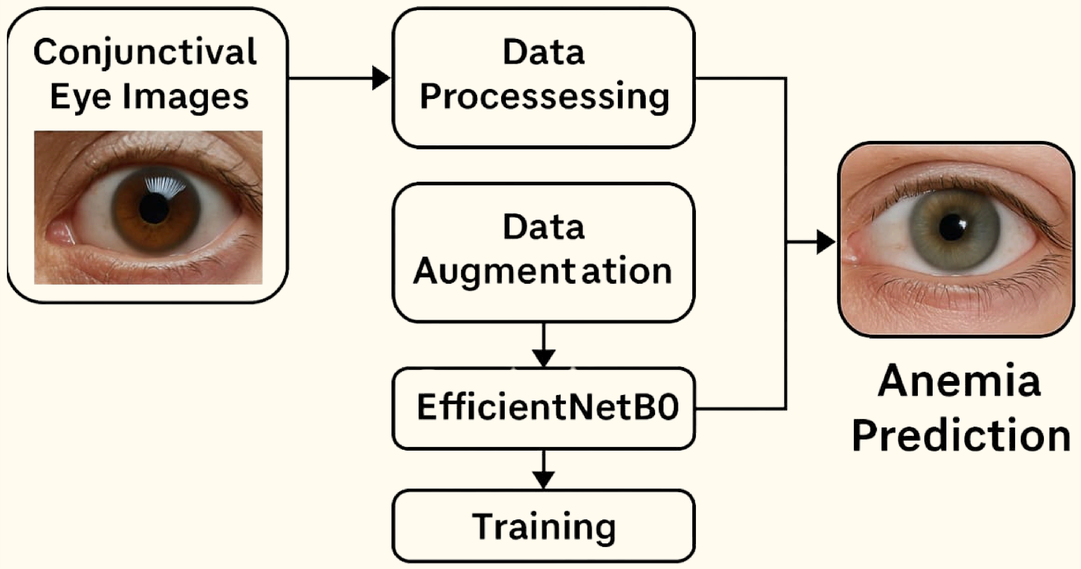
> Globally, 614m women aged 15-49 hit by condition

16% of adult men and 22% of adult women in

↓ OBJECTIVES ↓

- Early anemia detection using AI-powered non-invasive screening
- Deploy an AI-driven system for affordable healthcare solutions
- Ensure accessibility for rural and low-income populations
- Enhance user awareness through chatbot-assisted education

↓ METHODOLOGY ↓

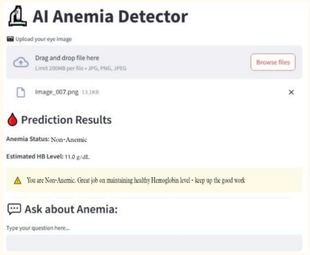


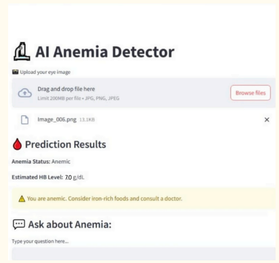
↓ RESULTS AND DISCUSSION ↓

Achieved 92.5% accuracy with EfficientNetB0 CNN model.

Real-time predictions for anemia classification.

- Chatbot integration offers dietary and health recommendations





↓ SUMMARY AND FUTURE WORK ↓

- Improve model accuracy with more diverse datasets.
- Integrate wearable tech for continuous monitoring.
- Expand detection to other deficiencies (e.g., Vitamin B12).

↓ REFERENCES ↓

1. Smith et al., "Non-Invasive Detection of Iron Deficiency Using Eye Imaging," Journal of Medical Imaging, 2022.
2. Lee & Wang, "RGB Analysis for Health Diagnostics: A Case Study on Sclera Imaging," ICIP, 2020.