Sustainable Cloth Recyclability Analysis Using AI-Inspired Image Processing

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Abstract

This paper presents a software-based AI-inspired system that analyzes cloth images to determine recyclability automatically. The system minimizes user input, estimates recyclability percentage, and calculates environmental impact while supporting sustainable development.

Keywords

Sustainable Development, Textile Recycling, AI-Inspired Systems, Image Analysis, Green Computing

Introduction

Textile waste is a growing environmental challenge. This research proposes an AI-inspired desktop system to assist recyclability decisions.

Methodology

The system uses image brightness analysis and rule-based AI logic instead of heavy machine learning models.

Conclusion

The proposed system demonstrates that lightweight AI-inspired software can support sustainability effectively.