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Design and Fabrication of Shoe Foot Cleaning Machine

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Abstract: *Indoor environment cleanliness is always a challenge because footwear acts as the main carrier for outdoor dust, allergens, and microbial contaminants. This paper details the design and fabrication of an automated shoe foot dusting machine to fill the gap between manual cleaning and high-cost industrial systems. The machine employs a sequence of rotating brushes run by an electric motor that removes dust effectively from the sole and sides of the shoes.*

Design considerations emphasize the safety of the user, ease of maintenance, and portability of the device. Experimental results demonstrate that the device reduces the amount of particulate matter tracked into a room, compared to traditional floor mats. This device represents an affordable solution for indoor air quality and floor hygiene in commercial and residential establishments.

Experiments prove that there is a substantial reduction in the level of dust tracked into houses with the use of this device compared to floor mats. This device looks forward to being a perfect, cost-effective solution in improving indoor air quality and floor cleanliness..

Keywords: *Indoor environment*

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