

IMPLEMENTATION OF EXTREME LEARNING MACHINE FOR SHOE IDENTIFICATION

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ABSTRACT

Shoes are a commonly worn type of footwear in contemporary society. Recently, they have gained significant popularity and are deemed essential by many individuals. Those unfamiliar with shoe varieties often encounter difficulties when making purchases. This challenge is exacerbated by certain online sellers who frequently mislabel their products. Extreme Learning Machine represents a novel learning approach stemming from artificial neural networks and constitutes one of the methodologies within Machine Learning. The research utilized datasets comprising 60 images each of casual, formal, and sports shoes for training purposes. For testing, 40 images each of casual, formal, and sports shoes were employed. The optimal outcome was achieved with 75 neurons, yielding a training accuracy of 70%, testing accuracy of 60%, and MAPE of 27.16%.

Keywords: *Extreme Learning Machine, MAPE, Machine Learning, Shoes, Image Classification.*