

## **Abstract**

Product reviews on e-commerce platforms are critical in guiding users' purchasing decisions, but the prevalence of fake reviews poses a significant risk to consumers. This research focuses on detecting fake reviews on the Shopee platform in Indonesia using a Graph Convolutional Network (GCN) approach. Real and fake review data is transformed into a graph, with TF-IDF and PMI techniques used to form edges that represent relationships between sentences. GCN is then applied to analyze these relationships, identifying words and sentences labeled as "Fake". In addition, this study also examines strong relationships between words or sentences in fake reviews to uncover deeper patterns and relationships, which provide valuable insights into the characteristics of fake reviews. The GCN model achieved an F1 score of 0.8919, obtained through 100 epochs, with 16 hidden layers, and using a total of 206 reviews as data, demonstrating its effectiveness in detecting fake reviews.

**Keyword:** Fake Reviews, Deep Learning, Graph Convolutional Network, classification