**Paper title : Pattern Recognition: Recent Advances and Applications**
**Author : Vitaly Kober ,Tae Choi , Victor Diaz-Ramírez, Pablo Aguilar-González4**
**Paper Link :** https://www.hindawi.com/journals/mpe/2018/8510319/

1 Summary :
**1.1 Motivation :**
Recent advances in pattern recognition show significant improvements in various applications, including computer vision, natural language processing,  medical diagnostics etc. Also , pattern recognition has introduced powerful techniques, such as deep learning, transfer learning, ensemble learning, active learning, and domain adaptation, expanding its scope and capabilities.

**1.2 Contribution :**
Pattern recognition has made significant contributions in the fields of computer vision, speech recognition, natural language processing, bioinformatics, and finance and economics. It has revolutionized human-computer interactions, enabled the analysis of biological data, and facilitated informed decision-making in various domains.

**1.3 Methodology :**
Pattern recognition involves identifying and classifying patterns in data. It involves data acquisition, feature extraction, feature selection, pattern classification, and evaluation. Recent advances include deep learning, transfer learning, ensemble learning, active learning, and domain adaptation. These advances have expanded pattern recognition's scope and capabilities

**1.4 Conclusion :**
Pattern recognition has a great impact in recent advances and applications. Recent advances in pattern recognition, such as deep learning and transfer learning, have expanded its scope and capabilities.

2 Limitations
**2.1 First Limitation :**
Pattern recognition models often struggle to generalize and explain their decision-making process as it fully depends on training datasets.
**2.2 Second Limitation :**
These systems can still be unfair because they learn from data, and if that data is not fair or diverse enough, the system can end up making biased predictions .

**Synthesis**
This paper shows the  ongoing progress in pattern recognition and the improvement of various applications which includes dramatic increase of computational power and also improvement in neural network techniques.