

## ***Title: Performance Improvement of FNN based Image Classification using PCA***

### **Summary**

The work provides a comprehensive pipeline to handle the classification issue with regard to hand-written digits. Applying the PCA and Horn's parallel analysis, FNN gets a better result compared with classical FNN. Also, this work implements the sensitive analysis about parameters  $k$ .

### **Strengths**

This paper clearly clarifies the intention, data, methodology and conclusion part. Meanwhile, the authors give a good integration of approaches and interpretation for the results.

### **Drawbacks**

No

### **Evaluation on Clarity and quality of writing (grade: 5)**

The work successfully addresses the classification problem and also shows the clear logic. One minor error in the results and analysis part is that the correct range of  $k$  is from 36 to 61 from your box and whisker figure. ( "From Horn's parallel analysis we get  $k=46$ , we then experiment with  $k$  ranging from 36 to 51 to find the optimum  $k$  for the given FNN architecture." )

### **Evaluation on Technical Quality (grade 5)**

The techniques are completely correct.

### **Overall rating: 5**

**Confidence on your assessment: 3**