**Research background**

HEVC (High Efficiency Video Coding):

1. Reducing bitrate 50% with comparable image quality compared to H.264 AVC High Profile.
2. Transform Quad-tree is applied leading to huge complexity.

**Problem statement**

Previous single threshold method of All Zero Block detection is able to reduce the complexity but the detection rate is not satisfying.

**Proposed method**

Apply two thresholds to solve the problem:

1. Decision of threshold 2
   \[ \text{Threshold 2} = \frac{(\text{QP} + 10)}{30} \times \text{Threshold 1} \]
2. Precise Detection with DC and AC

\[ DC = \frac{1}{N} \sum_{i=0}^{N-1} \sum_{j=0}^{N-1} X_{ij} \quad AC^2 < Qstep^2 \]

**Result**

In average, detection rate increases 15% than single threshold. Timesaving reaches 40%.

**Conclusion**

In average, detection rate increases 15% than single threshold. Timesaving reaches 40%.