Brain-like Energy Efficient Image Coding (BRIEFING)

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Abstract: Video streaming is growing exponentially around the world. However, these services are associated with energy use and carbon emissions from devices, network infrastructure and data centers. The goal of this research is to address these challenges and develop a novel, energy efficient and above all neuromimetic video compression system that satisfies the human visual perception. We propose that emerging technologies like artificial intelligence (AI) and computational neuroscience can address the compression challenges. We aim at releasing a semantic video compression algorithm where (i) the bit allocation is automatically driven by the visual scene content using Machine Learning (ML) algorithms and (ii) the encoding process is achieved by adapting neuroscience models that approximate the coding efficiency of the brain.