

A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Freitag, 3. Mai 2024, 13:00 Uhr

Ort: Seminarraum 006

(Fachbereich Mathematik und Informatik, Takustr. 9, 14195 Berlin)

Disputation über die Doktorarbeit von

Hoáng Tùng Nguyen

Thema der Dissertation:

Efficient Coding of Transform Coefficient Levels in Hybrid Video Coding

Thema der Disputation:

Challenges and Current Approaches in Entropy Coding for Image and Video Compression

Die Arbeit wurde unter der Betreuung von **Prof. Dr. H. Schwarz** durchgeführt.

Abstract: Modern compression techniques are essential for storing and transmitting image and video content. Due to the increased usage of video data and the trend to higher resolution formats, there is a large interest in finding more efficient compression algorithms. The lossless coding of intermediate data, which is also referred to as entropy coding, is an integral part of all image and video compression schemes, since it eventually determines the bit rate of the generated bitstream.

In the first talk, I will give an overview of different state-of-the-art entropy coding approaches for image and video coding and highlight their relation to the problem of probability estimation. In particular, the different approaches will be compared with respect to their complexity and degree of adaptivity. In the second talk, I will present several new methods for improving the coding efficiency and reducing the complexity of entropy coding in modern video compression. These methods have applications within state-of-the-art video coding standards like HEVC (High Efficiency Video Coding) and VVC (Versatile Video Coding).

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission

Prof. Dr. H. Schwarz