ΠΑΡΟΥΣΙΑΣΗ

ΔΙΔΑΚΤΟΡΙΚΗΣ ΔΙΑΤΡΙΒΗΣ

ΗΜΕΡΟΜΗΝΙΑ: Δευτέρα, 1 Ιουλίου 2024

ΩΡΑ: 15:30 – 16:30

ΑΙΘΟΥΣΑ: Αίθουσα Σεμιναρίων ΤΜΗΥΠ

ΟΜΙΛΗΤΡΙΑ: Σταματία-Χριστίνα Ζέρβα

Θ έ μ α

«Compression and enhancement of medical images and video»

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Π ε ρ ί λ η ψ η:

This dissertation explores the advancement of medical imaging technologies through the development of innovative methodologies for medical image and video compression and super-resolution. The research focuses on improving the efficiency and quality of medical image compression by introducing an enhanced method based on Wavelet Difference Reduction (WDR). Additionally, it proposes novel approaches for video and MRI super-resolution utilizing Plug-and-Play Priors (PnP) integrated within the Alternating Direction Method of Multipliers (ADMM) framework. The results demonstrate significant improvements in Peak Signal-to-Noise Ratio (PSNR) and Structural Similarity Index Measure (SSIM) across various datasets, emphasizing the practical applicability and superior performance of the proposed methods in clinical settings. Future directions include further optimization for real-time applications, extending the methodologies to other medical imaging modalities, and integrating robust security measures to safeguard patient data.

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