

	<p>Belyaev, Evgeny A. Candidate of Technical Science Doctor of Technology (Ph.D.)</p>
<p>Research interests</p>	<ul style="list-style-type: none"> ✓ Video coding and transmission ✓ Compressive sensing ✓ Arithmetic coding
<p>Features of the PhD program</p>	<ul style="list-style-type: none"> ✓ Both basic and applied research ✓ The possibility of the results approbation with industrial partners ✓ Interaction with foreign scientists and research centers ✓ Attracting graduate students to participate in research projects and experimental design works
<p>List of the supervisor's research projects (participation/supervision)</p>	<ul style="list-style-type: none"> ✓ Enhancement of decoded video quality based on neural networks (participation) ✓ Improvement of video coding based on H.265/HEVC standard (supervision) ✓ Development of video coding based on neural networks (supervision)
<p>List of potential thesis topics</p>	<ul style="list-style-type: none"> ✓ Distributed video coding based on neural networks ✓ Video coding with neural-network pre-filtering ✓ An efficient entropy coding for video compression
<p>Publications in the last five years</p>	<p>21 (Scopus / Web of Science / RSCI)</p>
<p>Key publications</p>	<ol style="list-style-type: none"> 1. E. Belyaev and Kai Liu, An adaptive binary rANS with probability estimation in reverse order // <i>IEEE Signal Processing Letters</i>, 2023 2. E. Belyaev, An Efficient Compressive Sensed Video Codec with Inter-Frame Decoding and Low-Complexity Intra-Frame Encoding, <i>Sensors</i>, 2023 3. G. Trofimiuk, E. Belyaev, P. Trifonov, Distributed Video Coding Based on Polar Codes, <i>IEEE Communications Letters</i>, 2023 4. E. Belyaev, M. Codreanu, M. Juntti, and K. Egiazarian, Compressive Sensed Video Recovery via Iterative Thresholding with Random Transforms // <i>IET Image Processing</i>, 2020 5. E. Belyaev and S. Forchhammer, An efficient storage of infrared video of drone inspections via iterative aerial map construction // <i>IEEE Signal Processing Letters</i>, 2019.

Key IPs	<ul style="list-style-type: none"> ✓ Real-time scalable video codec based on 3-D discrete wavelet transform (http://eugeniy-belyaev.narod.ru/3d_dwt.htm) ✓ Low complexity video codec with intra-frame coding and inter frame decoding based on compressive sensing (https://github.com/eabelyaev/csjpeg) ✓ Computer program “A software component for enhancement the quality of decoded video using neural networks (AIVideoEnhancement)” № 2022685895 dated of 28.12.2022 Belyaev E., Morgaretto I.
Supervisor’s specific requirements	<ul style="list-style-type: none"> ✓ Information Theory (Source coding) ✓ Programming (C/C++, Python) ✓ Machine learning
Code of the subject area of the PhD program	1.2.1 Artificial Intelligence and Machine Learning