DOCTORAL SCHOOL OF INFORMATICS
COMPLEX EXAM SUBJECT

**Image Processing (recommended subject)**

Goals of 3D computer vision. Modeling of spatial objects. Scene reconstruction from images and other modalities (shape from X). Motion analysis, motion-based reconstruction. Structure from motion. Recognition, detection, position estimation, texture analysis.


Recognition, invariants, appearance-based methods, visual eigenspaces, model-based recognition and positioning, alignment of points and lines, position estimation in perspective and weak-perspective cases.

Industrial computer vision application: installation, quality control. Reverse engineering, medical image processing (MRI, CT). Attention and security. Human motion detection and modeling, traffic control, intelligent robots and vehicles, realistic modeling of artistic objects.

**Literature**

