



PROGRAM  
FINANCED FROM  
THE NRDI FUND

## Group members

- Prof. Dmitrij Csetverikov, PhD students
- Dr. Levente Hajder, PhD students
- Dr. Lajos Lóczi, students
- Dr. László Z. Varga, students

## Tasks of Prof. Dmitrij Csetverikov & group

- General: Detection of defects, changes & motion
- Industrial quality control: Detect defective labels on flasks
- Image texture description & classification
- Deep Learning (DL) & applications

## **Achievements in industrial quality control**

- Software system for label defect detection developed & tested
- Project successfully finished
- Material presented at two TKP meetings
- Conference paper prepared
- Journal paper in preparation

## **Achievements in texture description & classification**

- New methods for texture description & classification
- Comparison to state-of-the-art methods, including DL
- Paper published in Q2 journal (2020)
- Paper prepared for Q1 journal (submission planned in May)

## **Future plans**

- Start new project related to outlier motion detection
- Publish results of defective label detection
- Submit paper on texture classification to Q1 journal
- Continue work of Deep Learning & applications

## Tasks of Dr. Levente Hajder & group

- General: Methods for vision systems of autonomous vehicles
- Visual *odometry* using affine transformations  
(*use of sensor data to estimate change in position*)
- Segmentation of moving objects
- Camera-based free-space detection
- Co-operation with Dr. Lóczi & group
- More information: talk by Dr. Hajder

## Tasks of Dr. Lajos Lóczi & group

- General: Research in mathematics
- Reliable computations
- Paper submission to a Q1 journal
- Reconstruction problems:

Co-operation with Dr. Hajder & group



## Tasks of Dr. László Z. Varga & group

- General: Study system adaptation to changing environment
- Study unexpected behaviour of autonomous adaptive systems
- Develop simulation model to investigate properties of such systems
- Demonstrate trustworthy property of model
- Publish results in conference and journal papers



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