



First Croatian Computer Vision Workshop (CCVW 2012)

September 20-21, 2012

Center for Computer Vision
Faculty of Electrical Engineering and Computing
University of Zagreb, Croatia



Opening address

- Prof. Hrvoje Domitrović, Vice Dean,
Faculty of Electrical Engineering and
Computing, University of Zagreb
- Prof. Sven Lončarić, Center for Computer
Vision, University of Zagreb

What is computer vision?

- Computer vision systems consist of hardware and software required for realization of visual perception by computers
- Goal: To mimic human capability for visual perception for object recognition and understanding of environment

Computer vision

- Computer vision systems involve:
 - acquiring,
 - processing,
 - analyzing, and
 - understanding images
- Images and video: n -dimensional
- Various imaging methods

Computer vision research areas

- Low-level: image processing = mapping from pixels to pixels
 - image enhancement, filtering, edge detection
- Mid-level: image analysis = mapping from pixels to features
- High-level: image understanding
 - Recognition, classification, 3D motion planning

Application areas

- All areas of human activity:
 - Medicine
 - Industrial machine vision
 - Traffic and transportation
 - Meteorology
 - Agriculture
 - Law enforcement and military applications
 - Biometrics

Related and overlapping fields

- Artificial intelligence
- Pattern recognition
- Soft computing
- Signal processing
- Physics (sensors, optics)
- Neurobiology, neurosciences
- Mathematics, statistics

Motivation for Center

- R&D in theory and applications of computer vision is conducted at several faculties/schools at the Univ. of Zagreb
- Need for better coordination and collaboration between research groups

Center for Computer Vision

- One year project supported by the University of Zagreb Development Fund
- Project title: “Center of Excellence for Computer Vision”

Project team members - FER

- Mislav Grgić
- Sonja Grgić
- Zoran Kalafatić
- Mario Kovač
- Zdenko Kovačić
- Sven Lončarić
- Igor Pandžić
- Ivan Petrović
- Tomislav Pribanić
- Slobodan Ribarić
- Damir Seršić
- Marko Subašić
- Siniša Šegvić

Project team members

- Dubravko Gajski, Faculty of Geodesy
- Hrvoje Gold, Faculty of Transport and Traffic Sciences
- Bojan Jerbić, Faculty of Mechanical Engineering and Naval Architecture
- Lidija Mandić, Faculty of Graphical Arts
- Vladimir Medved, Faculty of Kinesiology
- Renata Pernar, Faculty of Forestry

Center for Computer Vision Goals

- Increase quality of research in the area of computer vision at Univ. of Zagreb
- Create critical mass of researchers for joint participation in large R&D projects
- Joint approach to industry for transfer of technology and industry collaboration
- Increase int'l visibility of Univ. of Zagreb in the area of computer vision

Center activities

- Center promotion
 - Web portal, Center brochure
- Thematic meetings with industry to encourage science-industry collaboration and form clusters of knowledge
- Research seminars of the Center
- Croatian Computer Vision Workshop
- Purchase of literature and travel support

Research proposals

- Formation of larger teams for joint preparation of research proposals
- Recent efforts:
 - “VISTA – Computer Vision Innovations for Safe Traffic”, IPA IIc project proposal, 4 research laboratories
 - COST project proposal related to biometrics

Thematic meetings

- First thematic meeting held on July 11, 2012
 - Center members
 - Companies in Croatian automotive industry sector
- Topics:
 - Presentation of capacities and technologies available from the Center members
 - Discussion of company needs for R&D in automotive industry sector in Croatia

Annual workshop

- Annual Croatian Computer Vision Workshops
- Objectives:
 - Exchange information about research activities
 - Bring together researchers and industry professionals in computer vision area
 - Promote the area among younger colleagues

Technical program

- Invited lectures
- Poster presentations during lunches and coffee breaks
- Posters on display in FER Gallery space

Other information

- Lunches and coffee breaks in FER Gallery space
- Wireless network access for participants
 - SSID: CCVW2012

Thanks

- Thanks to:
 - Invited speakers
 - Members of the Center
 - Members of the Organizing Committee
- I wish you all successful participation in the Workshop