
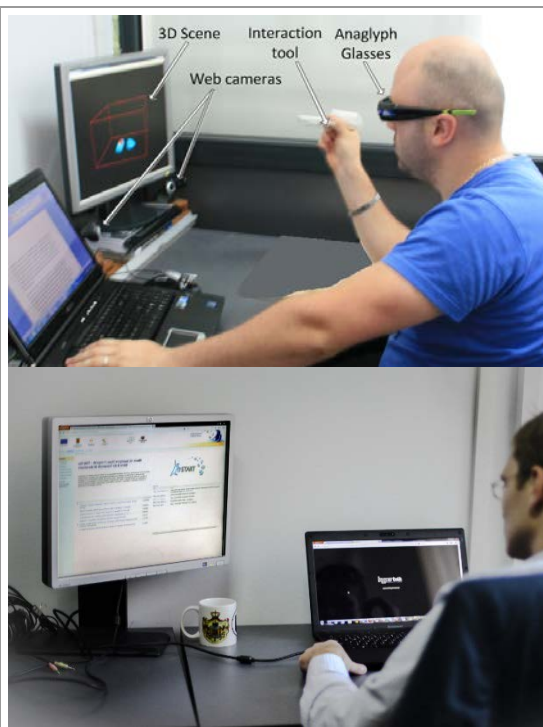


MULTIMEDIA TECHNOLOGIES AND TELECOMMUNICATIONS RESEARCH CENTRE

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Areas of expertise

Main Field: Information and communications technologies

Key words: e-learning, e-health, e-business, e-government, e-citizen, e-content, digital television HD / 3D, new Media, web services, multimedia databases, 3D video coding & compression, collaborative cloud, artificial intelligence, cognitive systems, trainable systems, intelligent interfaces, multimodal analysis and integration, image processing and analysis, artificial vision.

Team

Prof. Dr. Eng. Aurel VLAICU, Assoc. Prof. Dr. Eng. Bogdan ORZA, Assist. Dr. Eng. Șerban MEZA, PhD. Stud. Aurelia CIUPE, PhD Stud. Alexandru POPA, Prof. Dr. Eng. Mircea GIURGIU, Dr. Eng. Adriana STAN, Assoc. Prof. Dr. Eng. Mihaela GORDAN, Assist. Dr. Eng. Camelia FLOREA, Assist. Dr. Eng. Mihaela CASLARIU, Assoc. Prof. Dr. Eng. Zsolt POLGAR, Prof. Dr. Eng. Vasile BOTA, Assist. Dr. Eng. Mihaly VARGA, Prof. Dr. Eng. Virgil DOBROTĂ, Assoc. Prof. Dr. Eng. Daniel ZINCA, Assist. Dr. Eng. Bogdan RUS, Assist. Dr. Eng. Tudor BLAGA

Representative projects

UCONNECT - "Implementation of Ubiquitous Connectivity for Public Transport, FP7 project, 2012-2014.
4WARD - "Architecture and Design for the Future Internet", FP7-ICT-2007-1 No. 216041, 2008-2010
Wi-QoST: "Traffic and QoS Management in Wireless Multimedia Networks", 2004-2008
CODIV "Enhanced Wireless Communication Systems Employing COoperative DIVERSity", FP7, 2008-2010.
COST IC 1004 "Cooperative Radio Communications for Green Smart Environments"
COST 2100 "Pervasive Mobile & Ambient Wireless Communications", 2007-2010;
Simple4All - "Speech synthesis that improves through adaptive learning" FP7 project, (2011-2014), www.simple4all.org,
Sound2Sense - "Making sense of speech sounds", FP6 project (2007-2011), www.sound2sense.eu,
EU eContentPlus - "KeyToNature" (2008-2010), www.keytonature.eu
EU eTEN "EUROWEX - Online platform using digital signature for the management of university activities" (2006-2008), www.eurowex.org
"Image Processing, Information Engineering & Interdisciplinary Knowledge Exchange", CEEPUS Network CII-AT-0042-05-0910,
Text2Speech - "Development of software services for text to speech synthesis in Romanian language" PNII INOVARE (2008-2010),
COMODICI - "Sistem de Control și Monitorizare la Distanță a Clădirilor Inteligente", CEEEX project (2006-2008)
SIMIMED - "Sistem integrat de management a informațiilor medicale utilizând standardul HL7", PNII project (2007-2010)
INVITE - "Platformă Inteligentă Colaborativă pentru Dezvoltarea și Susținerea Mecanismelor Intreprinderilor Virtuale", PNII project - 12119 (2008-2011)

Significant results

The most representative publications of the past 5 years:

1. Florea, Camelia, Gordan, Mihaela, Vlaicu, Aurel, et al., Computationally Efficient Formulation of Sparse Color Image Recovery in the JPEG Compressed Domain, *Journal Of Mathematical Imaging And Vision*, Vol.49, Issue:1, Pp. 173-190, 2014
2. Moldovan, Roxana, Orza, Bogdan, Vlaicu Aurel, et al., Advanced Human-Computer Interaction in External Resource Annotation, *IEEE 19th International Conference on Automation, Quality and Testing, Robotics*, Cluj Napoca, Romania, May 22-24, 2014
3. Danciu, Marius, Gordan Mihaela, Florea Camelia, et al., A Hybrid 3D Learning-and-Interaction-based Segmentation Approach Applied on CT Liver Volumes, *Radioengineering*, Vol.22, Issue 1, Special Issue: SI, Pp.100-113, Apr 2013
4. C. Porumb, S. Porumb, B. Orza, A. Vlaicu, „New Advanced Technologies - Chapter 13: Generic Framework for Collaborative Work Environments”, *Edited by Aleksandar Lazinica, Published by InTeh, Croatia*, 2010, pp. 211-230, ISBN: 978-953-307-067-4.
5. B. Orza, A. Cordos, A. Vlaicu, S. Meza, „New Advanced Technologies - Chapter 14: Integrated Medical System Using DICOM and HL7 Standards”, *Edited by Aleksandar Lazinica, Published by InTeh, Croatia*, 2010, pp. 231-245, ISBN: 978-953-307-067-4.
6. Giurgiu, M. , Kabir, A., “Automatic Transcription and Speech Recognition of Romanian Corpus RO-GRID”, *TSP 2012*, ISBN: 978-1-4673-1118-2, 3-4 July, Prague, 2012, pp. 465-468.
7. Stan, A., Pop, F.-C., Cremene, M., Giurgiu, M., Pallez, D. , „Interactive Intonation Optimisation Using CMA-ES and DCT Parametrisation of the F0 Contour for Speech Synthesis”. *In Proceedings of the 5th Workshop on Nature Inspired Cooperative Strategies for Optimisation*, Volume 387 of Studies in Computational Intelligence. Springer.
8. Florea, C., Moldovan, M., Gordan, M., Vlaicu, A., Orghidan, R., “Eye Color Classification for Makeup Improvement”, *Proceedings of the Federated Conference on Computer Science and Information Systems (FedCSIS Multiconference)*, *7th International Symposium Advances in Artificial Intelligence and Applications (AAIA'12)*, *Wroclaw, Poland*, September 9-12, 2012, pp. 55–62, ISBN: 978-83-60810-51-4.
9. Danciu, M., Gordan, M., Florea, C., Vlaicu, A., “3D DCT Supervised Segmentation Applied on Liver Volumes”, *35th International Conference on Telecommunications and Signal Processing (TSP)*, 3-4 Iulie 2012, Praga, Cehia, pp. 779-783, IEEE Catalog Number: CFP1288P-CDR, ISBN: 978-1-4673-1116-8.
10. Zs. A. Polgar, M. P. Stef, Zs. I. Kiss, A. Hosu, V. Bota, “Improving Link Reliability through Network Coding in Cooperative Cellular Networks” *Radioengineering*, June 2012, Volume 21, Number 2, ISSN 1210-2512,
11. V. Bota, Zs.A. Polgar, A. Silva, S. Teodoro, M. P. Stef, A. Moço, A. Botos, A. Gameiro (UTCN, Instituto de Telecomunicacoes Aveiro, Portugalia), “Combined Distributed Turbo Coding and Space Frequency Block Coding Techniques”, *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 327041, 14 pages, 2010, doi:10.1155/2010/327041
12. I.A.Ivanciu, F.Stoicuta, M.Anghel, A.B.Rus & V.Dobrota, “Enhancement of Information Object Management Tool about Audio-Video/ Network Status/ QoS Content in OpenNetInf”, *35th International Conference on Telecommunications and Signal Processing TSP 2012*, July 3-4, 2012, Prague, Czech Republic, ISBN: 978-1-4673-1116-8, Print ISBN: 978-1-4673-1117-5, pp.111-115
13. A.Comsa, A.B.Rus & V.Dobrota, “Simulation of the Floyd-Warshall Algorithm Using OMNeT++ 4.1”, *9th International Conference on Communications COMM 2012*, Military Technical Academy, “Politehnica” University of Bucharest, “Electronica 2000” Foundation and IEEE Romania Section, Bucharest, Romania, June 21-23, 2012, Print ISBN: 978-1-4577-0057-6, pp.229-232

Products

www.didatec.ro – Learning content management system based on Microsoft technologies

www.e-start.ro – collaborative tool based on Moodle and Adobe Technologies

www.simac.utcluj.ro - SIMAC – sistem integrat de evaluare a activitatilor didactice, de cercetare si manageriale

The offer addressed to the economic environment

Research & development	text to speech synthesis, automatic speech recognition, Interactive Voice Response Systems, collaborative cloud systems for project management, data and network security, unified communication solutions, digital transmission systems: evaluation, design and optimization, Computational intelligence based image processing and analysis systems, color image enhancement and restoration for cultural heritage applications, 3D perception using stereoscopic techniques, Integrated platforms and services for innovative applications in eHealth, eGovernment, eBusiness, eMedia, eLearning and eLiving,
Consulting	Multimedia applications in the context of the mobile social web, cloud computing Education management and the use of IT&C for teaching in different blended-learning or e-learning scenarios: virtual collaboration tools, serious games, on-line social learning. Integrated platforms and electronic services for innovative applications in eHealth, eGovernment, eBusiness, eMedia, eLearning and eLiving.
Training	Audio-video systems engineering, video signal editing and processing, Complex acquisition and processing of visual information for augmented 3D reality, systems and application for processing / editing / rendering 3D video. Bi-modal (audio & video) and multimodal methods for image and video analysis