Curriculum Vitae

Personal details

Name: Dr. András Hajdu
Born: February 6, 1973, Karcag, Hungary
Citizenship: Hungarian
Interests: Data Science, Artificial Intelligence, Digital Image Processing, Discrete Mathematics

Affiliation

Full Professor, Head of Department
Department of Data Science and Visualization
Faculty of Informatics, University of Debrecen
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Scientific and educational degrees

2017	Doctor of the Hungarian Academy of Sciences
2008	Habilitation, Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2003	PhD. with „summa cum laude” in Mathematics and Computer Sciences, University of Debrecen, Debrecen, Hungary
1996	Master of Science in Mathematics, Teacher of Mathematics, English-Hungarian Special Translator, Lajos Kossuth University, Debrecen, Hungary

Languages

Hungarian (fluent), English (fluent), Russian (basic level)

Appointments

2021-	Director of the Gyorgy Hajos Data Science Special College, Faculty of Informatics, University of Debrecen
2021-	Senior data analyst, National Data Assets Agency, Hungary
2019-	Dean, Faculty of Informatics, University of Debrecen, Debrecen, Hungary

2017-	Full Professor at the Dept. of Computer Graphics and Image Processing, Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2011-	Head of Dept. of Computer Graphics and Image Processing, Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2010-	Leader of the Bioinformatics Research Group, University of Debrecen, Debrecen, Hungary
2010-2011	Vice Dean of Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2008-2017	Associate Professor at the Dept. of Computer Graphics and Image Processing, Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2005-2006	Postdoctoral Researcher, Aristotle University of Thessaloniki, Thessaloniki, Greece
2004-	Assistant Professor at the Dept. of Information Technology, Faculty of Informatics, University of Debrecen, Debrecen, Hungary
2001-2004	Assistant Lecturer at the Dept. of Information Technology, Institute of Informatics, University of Debrecen, Debrecen, Hungary
2000-2001	Predoctoral fellowship at the Dept. of Information Technology, Institute of Informatics, University of Debrecen, Debrecen, Hungary
1997-1999	Full time PhD student at the Institute of Mathematics and Informatics, University of Debrecen, Hungary
1992-1996	Full time student at the Lajos Kossuth University, Debrecen, Hungary

Scholarships and prizes

2023	Professor of the István Tisza Foundation for the University of Debrecen
2016	„Tamás Rapcsák” Prize for Operation Research, Dr. Tamás Rapcsák Fund
2014	Best Publication of the Year (University of Debrecen), Hungary
2012-2014	„János Szentágothai” grant for distinguished researchers of the Republic of Hungary
2012	IT Lecturer of the Year (national prize), Hungary
2009	Prize of the Faculty of Informatics, University of Debrecen, Hungary
2008-2011	„János Bolyai” research scholarship of the Hungarian Academy of Sciences
2004	„Gyula Farkas” prize of the János Bolyai Mathematical Society, Hungary
2002-2003	„Pro Regione” scholarship, University of Debrecen, Debrecen, Hungary
1997	„Universitas” scholarship, Lajos Kossuth University, Debrecen, Hungary

Research projects

2022-2026	OTKA, NK143540, Composing optimally arranged sensor network for detecting radiation using machine learning, project leader.
2022-2024	DIGITAL-2021-EDIH-01, European Digital Innovation Hubs, Data-EDIH, WP leader
2021	1st Cloud Funding for Research Open Call of Open Clouds for Research Environments (OCRE), Approximation of theoretical models and application-oriented further evolvement.
2019-2021	GINOP-2.2.1-18-2018-00012: Automated detection of cancer cells in cytological smears, scientific leader
2017-2020	EFOP-3.6.2-16-2017-00015: HU-MATHS-IN; Intensification of the activity of the Hungarian Industrial Innovation Service Network
2015-2018	VKSZ_14-1-2015-0072, SCOPIA: Development of diagnostic tools based on endoscope technology, project leader

2012-2015 OTKA, NK101680, Mathematical modeling of clinical observations for improved melanoma detection, senior researcher

2012-2013 HURO/1001/283/2.3.1, MobileAssistant: Cross-border academic development of an image-based recommendation system for regional educational purposes, project leader

2009-2011 TECH08-2 grant of the Hungarian National Office for Research and Technology (NKTH), DRSCREEN - Developing a computer-based image processing system for diabetic retinopathy screening, project leader

2004-2006 FP6-004218, SHARE: Mobile Support for Rescue Forces, Integrating Multiple Modes of Interaction, EU FP6 Information Society Technologies, role: scientific manager, AUTH leader: Ioannis Pitas

Memberships

2021- AIDA - AI Doctoral Academy, AI Educational Resource Committee Chair

2017- Hungarian Academy of Sciences, academic doctor

2015-2019 International Association of Pattern Recognition (IAPR), board member

2015-2019 Hungarian Association for Image Analysis and Pattern Recognition, president

2015- Hungarian Association for Image Analysis and Pattern Recognition, board member

2014- Institute of Electrical and Electronics Engineers (IEEE), senior member

2008- Institute of Electrical and Electronics Engineers (IEEE), member

2003- Hungarian Academy of Sciences, public member

2002- International Association for Pattern Recognition (IAPR), member

Refereeing

Research projects:

EU (EIC, H2020-MSCA, SC1, SMEI, IF), National (OTKA), Kuwait Foundation for the Advancement of Sciences

Journals:

Computers in Biology and Medicine (Elsevier), Discrete Applied Mathematics (Elsevier), Discrete Mathematics (Elsevier), Transactions on Image Processing (IEEE), Transactions on Pattern Analysis and Machine Intelligence (IEEE), Transactions on Signal Processing (IEEE), Transactions on Medical Imaging (IEEE), Transactions on Biomedical Engineering (IEEE), Machine Vision and Applications (Springer) Pattern Recognition Letters (Elsevier), Signal Processing (Elsevier), Teaching Mathematics and Computer Science (University of Debrecen, Hungary), Image Processing (IET)

Conferences:

ISSPA 2005, ISSPA 2007, ICSPC 2007, SITIS'10, MCS2011, SITIS 2011, HAIS 2012, CBMI 2013, ISPA 2013, VISAPP 2013, ISBI 2014, ISBI2015, ICPR2016, ISBI2016, ISBI2017, ISBI2018, ICPR2018, ISBI2019, ICPR2019 CITDS 2020, CITDS 2022.

Teaching

Preparation courses for industrial certificates (MS AI-900), Lectures and seminars on Machine Learning, Deep Learning, Big Data, Programming (Python, C, C++, Matlab, Java, Visual Basic, R), Bioinformatics, Collaborative Project Work, Theoretical Informatics, Statistics, Optimization, Digital Image Processing, Parallel Computing; Supervising Thesis Writing, Supervising TDK-Thesis Writing, Supervising Summer School Students, Supervising PhD students

Conference organizations

2022	IEEE 2nd Conference on Information Technology and Data Science, CITDS 2022, Debrecen, Hungary, general chair
2020	1st Conference on Information Technology and Data Science, CITDS 2020, Debrecen, Hungary, general chair
2019	6th International Conference on Parallel, Distributed, GPU and Cloud Computing for Engineering, Pecs, Hungary, session organizer (Artificial Intelligence, High Performance Computing and Visualization for Big Data), Pecs, Hungary
2019	12th Conference of the Hungarian Association for Image Analysis and Pattern Recognition, Debrecen, Hungary, conference organizer
2018	IEEE International Conference on Future IoT Technologies, Eger, Hungary, invited lecturer
2015	ISPA 2015 - IEEE-EURASIP 9th Int'l Symposium on Image and Signal Processing and Analysis, Edinburgh, Scotland, UK, session organizer
2014	CogInfoCom 2014, 5th IEEE International Conference on Cognitive Infocommunications, Vietri sul Mare, Italy, track organizer
2013	ISPA 2013 - IEEE-EURASIP 8th Int'l Symposium on Image and Signal Processing and Analysis, Trieste, Italy, session organizer
2013	CogInfoCom 2013, 4th IEEE International Conference on Cognitive Infocommunications, Budapest, Hungary, session organizer
2012	CogInfoCom 2012, 3rd IEEE International Conference on Cognitive Infocommunications, Kosice, Slovakia, session organizer
2011	Summer School on Image Processing 2011, Veszprem, Hungary, invited lecturer
2011	12th Symposium on Programming Languages and Software Tools - SPLST'11, Tallin, Estonia, invited lecturer

Selected publications

(complete list at https://scholar.google.com/citations?user=pY3CfdIAAAAJ&hl=en)

- Gergo Bogacsovics, Janos Toth, Andras Hajdu, Balazs Harangi, Enhancing CNNs through the use of hand-crafted features in automated fundus image classification, Biomedical Signal Processing and Control, Volume 76, 2022, 103685, IF=5.86
- Kapusi, T.P.; Erdei, T.I.; Husi, G.; Hajdu, A. Application of Deep Learning in the Deployment of an Industrial SCARA Machine for Real-Time Object Detection. Robotics 2022, 11, 69, IF=3.40.
- Hajdu, A., Terdik, G., Tiba, A. et al. A stochastic approach to handle resource constraints as knapsack problems in ensemble pruning. Mach Learn 111, 1551–1595 (2022), IF=5.414.
- Huang X, Zhou S, Tóth J, Hajdu A. Cuproptosis-related gene index: A predictor for pancreatic cancer prognosis, immunotherapy efficacy, and chemosensitivity. Front Immunol. 2022 Aug 25;13:978865, IF=8.786.
- J. Tóth, H. Tomán, A. Hajdu: Efficient Sampling-based Energy Function Evaluation for Ensemble Optimization Using Simulated Annealing, PATTERN RECOGNITION (0031-3203): 107 Paper 107510. (2020), IF= 7.196.
- Porwal, Prasanna ; Pachade, Samiksha ; Kokare, Manesh ; Deshmukh, Girish ; Son, Jaemin ; Bae, Woong ; Liu, Lihong ; Wang, Jianzong ; Liu, Xinhui ; Gao, Liangxin ; Andras Hajdu et al IDRiD: Diabetic

Retinopathy – Segmentation and Grading Challenge Medical Image Analysis 10 p. 101561 Paper: 101561 (2019), IF=8.88.

- Hajdu, L. Hajdu, R. Tijdeman: Finding well approximating lattices for a finite set of points, Math. Comp. Published electronically: April 5, 2018, DOI: https://doi.org/10.1090/mcom/3320, IF=1.579.
- Gy. Kovacs, A. Hajdu: A Self-Calibrating Approach for the Segmentation of Retinal Vessels by Template Matching and Contour Reconstruction, Medical Image Analysis 29 (2016), 24-46, IF=3.654.
- Antal, A. Hajdu: An ensemble-based system for automatic screening of diabetic retinopathy, Knowledge-Based Systems (Elsevier) 60 (April 2014), 20-27, IF=4.104.
- Hajdu, L. Hajdu, A. Jonas, L. Kovacs, H. Toman: Generalizing the majority voting scheme to spatially constrained voting, IEEE Trans. on Image Processing 22(11) (November 2013), 4182-4194, IF=3.042.
- Lazar and A. Hajdu: Retinal microaneurysm detection through local rotating cross-section profile analysis, IEEE Trans. on Medical Imaging 32(2) (February 2013), 400-407, IF=3.643.
- Antal, A. Hajdu: An Ensemble-based System for Microaneurysm Detection and Diabetic Retinopathy Grading, IEEE Trans. on Biomedical Engineering 59(6) (2012), 1720-1726. IF=2.278.

Debrecen, 14/01/2024

Dr. András Hajdu