SZILÁGYI László

Performanța academică

TOTAL PUNCTE	128,75
Cărți și capitole publicate	9,25
Editor proceedings la conferințe	0,50
Director sau membru al unui grant/proiect/contract/program de cercetare național/international	27,00
Membru în comitetul științific (de program) al unor conferințe, simpozioane, workshop-uri	10,00
Organizare evenimente științifice, scoli de vară	3,00
Profesor/researcher asociat/visiting la o universitate din top	24,00
Consolidarea de echipe de cercetare	46,00
Membru în comisii de evaluare a tezelor de doctorat la o universitate din top	3,00
Premii și alte merite	6,00

Cărți și capitole publicate			9,25
Lucrare	Autori	Categoria	Punctaj
Szilágyi L: Novel Image Processing Methods Based on Fuzzy Logic. Scientia Publishing House, Cluj-Napoca, 2009, ISBN: 978-973-1970-20-2, 162pp.	1	Carte Editură nelistată	2
Benyó Z, Paláncz B, Szilágyi L: Insight into Computer Science with Maple. Scientia Publishing House, Cluj-Napoca, 2005, ISBN: 973-7953-56-8, 416pp.	3	Carte Editură nelistată	2
Benyó B, Benyó Z, Paláncz B, Szilágyi L, Ferenci T: Theory of technical and biological systems (Hungarian). Typotex, Budapest, 2014, ISBN 978-963-2791-74-6, 189pp.	5	Carte Editură nelistată	2/3= 0,666
Szilágyi L, Szilágyi SM, Benyó Z: Fast and Robust Fuzzy C-Means Algorithms for Automated Brain MR Image Segmentation. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 578-586, ISBN: 978-1599048895 (2008)	3	Capitol Editură nelistată	1

Szilágyi SM, Szilágyi L, Benyó Z: Volumetric Analysis and Modeling of the Heart Using Active Appearance Model. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 1374-1382, ISBN: 978-1599048895 (2008)	3	Capitol Editură nelistată	1
Szilágyi SM, Szilágyi L, Frigy A, Görög LK, Benyó Z: Spatial Heart Simulation and Adaptive Wave Propagation. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 1253-1260, ISBN: 978-1599048895, (2008)	5	Capitol Editură nelistată	1/3= 0,333
Szilágyi SM, Szilágyi L, Benyó Z: Echocardiographic Image Sequence Compression Based on Spatial Active Appearance Model. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 472-479, ISBN: 978-1599048895 (2008)	3	Capitol Editură nelistată	1
Szilágyi SM, Szilágyi L, Benyó Z: Spatial Heart Simulation and Analysis Using Unified Neural Network. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 1261-1268, ISBN: 978-1599048895 (2008)	3	Capitol Editură nelistată	1
Szilágyi SM, Szilágyi L, Luca CT, Cozma D, Ivanica G, Benyó Z: Modification of the Accessory Pathway Localization Method to Improve the Performance of WPW Syndrome Interventions. In: Wickramasinghe N, Geisler E (eds.): Encyclopaedia of Healthcare Information Systems, IDEA Group Publishing: Hershey-New York, 921-930, ISBN: 978-1599048895 (2008)	6	Capitol Editură nelistată	1/4= 0,25

Editor proceedings la conferințe			0,50
Lucrare	**Editori**	**Categoria**	**Punctaj**
Domokos J, Bakó L, Forgó Z, Szilágyi L (Eds.): 3rd International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, MACRO 2011.	4	D	1/2= 0,50

Director sau membrual unui grant/proiect/contract/program de cercetare național/internațional			27
Proiect	**Rol**	**Categoria**	**Punctaj**
2012-2015: Modern robust fuzzy c-means clustering techniques. Financed OTKA Hungary, PD103921 (70000 EUR)	Director	50000-99999 EUR	4
2010-2012: Advanced image segmentation and registration methods, with applications in medical intervention planning. Financed: UEFISCDI Romania, PD 28/05.08.2010 (322000 RON)	Director	50000-99999 EUR	4

2006-2007: Application of fuzzy logic in image segmentation. Finanțat de Sapientia IPC	Director	< 50000 EUR	2
1997-1999: Distributed communication system in biomedical applications. Finanțat de UE, INCO Copernicus 960161 (65000 ECU)	Membru	50000-99999 EUR	2
1999-2001: Medical communication system and dummy patient. Finanțat de FKFP Hungary, 0301/1999 (20000 EUR)	Membru	< 50000 EUR	1
1999-2002: Event recognition for application in technical and non-technical diagnosis. Finanțat de OTKA Hungary, T29830 (31000 EUR)	Membru	< 50000 EUR	1
2003-2007: System theory approach of the information of the biological signals for diagnostics. Finanțat de OTKA Hungary, K42990 (48000 EUR)	Membru	< 50000 EUR	1
2004-2008: Safety critical diagnostic systems. Finanțat de OTKA Hungary, F46726 (23000 EUR)	Membru	< 50000 EUR	1
2007-2010: Development of new measurement and control methods, and their bioinformatical applications, for early diagnosis and optimal treatment of metabolic diseases. Finanțat de OTKA Hungary, K69055 (40000 EUR)	Membru	< 50000 EUR	1
2010-2015: Novel methods for the improvement of medical diagnostics. Finanțat de OTKA Hungary, K82066 (57000 EUR)	Membru	50000-99999 EUR	2
2015-2019: Stochastic models for next generation accurate model-based glycemic control in intensive care: from all new models and methods to clinical validation. Finanțat de OTKA Hungary, K116574 (90000 EUR)	Membru	50000-99999 EUR	2
2004-2005: Sistem de vizualizare 3D pe baza imaginilor medicale. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1
2005-2006: Determinarea optimala a turbulentelor inimii bazate pe inregistrari Holter ECG. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1
2007-2008: Modelarea robusta a unor celule din inima. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1
2008-2009: Studiul algoritmilor hibrizi de clasificare nesupravegheata cu aplicatii in prelucrarea imaginilor. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1
2009-2012: Probleme de scheletonizare eficienta a obiectelor spatiale variabile. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1
2011-2014: Călire simulată distribuită, bazată pe modele. Finanțat de Sapientia IPC	Membru	< 50000 EUR	1

Membru în comitetul științific (de program) al unor conferințe, simpozioane, workshop-uri		10
Conferința	Categoria	Punctaj
9th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2012, Girona (Spania), 21-23 noiembrie 2012	B	2
10th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2013, Barcelona (Spania), 20-22 noiembrie 2013	B	2
11th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2014, Tokyo (Japonia), 29-31 octombrie 2014	B	2
12th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2015, Skövde (Suedia), 21-23 septembrie 2015	B	2
Urmează: 13th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2016, Sant Julia de Loria (Andorra), 19-21 septembrie 2016	B	0
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2010, Tîrgu Mureș, 14-15 mai 2010	D	0,50
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2011, Tîrgu Mureș, 8-9 aprilie 2011	D	0,50
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2015, Tîrgu Mureș, 6-8 martie 2015	D	0,50
5th International Conference on Mathematics and Informatics, MatInfo 2015, Tîrgu Mureș, 2-4 septembie 2015	D	0,50

Organizare evenimente științifice, scoli de vară		3
Conferința	Rol	Punctaj
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2009, Tîrgu Mureș, 20-21 martie 2009	Membru comitet de organizare	1
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2010, Tîrgu Mureș, 14-15 mai 2010	Membru comitet de organizare	1
International Conference On Recent Achievements in Mechatronics, Automation, Computer Science and Robotics, MACRO 2011, Tîrgu Mureș, 8-9 aprilie 2011	Membru comitet de organizare, organizarea unei secții speciale	1

Profesor/researcher asociat/visiting la o universitate din top (max. 24 puncte)				24
Universitatea	**Rolul**	**Durata stagiului**	**Categoria**	**Punctaj**
Budapest University of Technology and Economics	Researcher asociat	2013/01 – 2015/02 = 26 luni 2015/06 – 2016/01 = 8 luni	Top 500	68
University of Canterbury, Christchurch, New Zealand	Visiting researcher	2015/03 – 2015/05 = 3 luni Urmează: 2016/03 - 2016/05	Top 500	6

Consolidare de echipe de cercetare				46
Echipa	**Membri**	**Ani**	**Rezultate**	**Punctaj**
Hand-in-Scan (prevenirea infecții cu ajutorul imagisticii computerizate)	**SZILÁGYI László** HAIDEGGER Tamás LEHOTSKY Ákos NAGY Melinda CSONKA Erik-Artúr PETHES Róbert	2010-15 2010-15 2010-15 2010-13 2012 2015	1. Lehotsky Á, Szilágyi L, Ferenci T, Kovács L, Pethes R, Wéber G, Haidegger T: Quantitative impact of direct, personal feedback on hand hygiene technique. Journal of Hospital Infection 91(1):81-84 (2015), ISSN: 0195-6701, IF: 2.544 2. Szilágyi L, Haidegger T, Lehotsky Á, Nagy M, Csonka EA, Sun XY, Ooi KL, Fisher D: A large-scale assessment of hand hygiene quality and the effectiveness of the "WHO 6-steps". BMC Infectious Diseases, 13(249):1-10 (2013), ISSN: 1471-2334, IF: 2.561 3. Haidegger T, Nagy M, Lehotsky Á, Szilágyi L: Digital imaging for the education of proper surgical hand disinfection. In: Fichtinger G, Martel AL, Peters TM (Eds.): Medical Image Computing and Computer-Assisted Intervention, Springer, LNCS vol. 6893, pp. 619-626 (2011), ISBN: 978-3-642-23625-9 4. Szilágyi L, Lehotsky Á, Nagy M, Haidegger T, Benyó B, Benyó Z: Stery-Hand: a new device to support hand disinfection. 32nd Annual International Conference of IEEE Engineering in Medicine and Biology Society, Buenos Aires, pp. 4756-4759 (2010), ISBN 978-1-4244-4123-5, ISSN 1557-170X 5. Robotics and Automation Award for Product Innovation, IEEE Robotics and Automation Society, 2015 6. Premiul EIB Social Innovation Tournament, 1st Prize (Luxembourg), 2012 7. Premiul Best Of Biotech - LISA VR Medtech Award (Vienna, Austria), 2012 8. Premiul Innovact Campus Award, 1st Prize (Reims, France), 2011 9. Premiul ICPIC Innovation Academy Award, 1st Prize (Geneva, Switzerland), 2011 10. Premiul Outstanding Student Humanitarian Prize at IEEE Presidents' Change the World Competition, 2011 +2 lucrări de diplomă MSc, 1 lucrare de diplomă BSc	24

Clustering team	**SZILÁGYI László** SZILÁGYI Sándor Miklós ICLĂNZAN David Andrei KISS Csilla CRĂCIUN Lehel	2008-11 2008-11 2008-09,11 2010 2011	1. Szilágyi L, Iclănzan D, Crăciun L, Szilágyi SM: An efficient approach to intensity inhomogeneity compensation using c-means clustering models. In: San Martín C, Kim SW (Eds.): Progess in Pattern Recognition, Image Analysis, Computer Vision, and Applications, Springer, LNCS vol. 7042, pp. 312-319 (2011), ISBN: 978-3-642-25084-2 2. Szilágyi L, Szilágyi S, Kiss Cs: A generalized approach to the suppressed fuzzy c-means algorithm. In: Torra V, Narukawa Y, Dumas M (Eds.): Modeling Decisions in Artificial Intelligence, Springer, LNCS vol. 6408, pp. 140-151 (2010), ISBN: 978-3-642-16291-6 3. Szilágyi L, Iclănzan D, Szilágyi SM, Dumitrescu D, Hirsbrunner B: A Generalized C-Means Clustering Model Optimized Via Evolutionary Computation. IEEE Conference on Fuzzy Systems, Jeju Island (S. Korea), pp. 451-455 (2009), ISBN 978-1-4244-3597-5 4. Szilágyi L, Iclănzan D, Szilágyi SM, Dumitrescu D: GeCiM: A novel generalized approach to c-means clustering. In: Ruiz-Schulcloper J, Kropatsch WG (Eds.): Progress in Pattern Recognition, Image Analysis and Applications, Springer, LNCS vol. 5197, pp. 235-242 (2008), ISBN: 978-3-540-85919-2 + 1 lucrare de dipomă (inginer 5 ani)	13
Applicative Clustering Team	**SZILÁGYI László** SZILÁGYI Sándor Miklós VARGA Zsuzsa Réka DÉNESI Gellért NAGY Lajos Loránd GOSZTOLYA Gábor LEFKOVITS László	2014-15 2014-15 2014 2014 2015 2015 2015	1. Szilágyi L, Varga ZsR, Szilágyi SM: Application of the fuzzy-possibilistic product partition in elliptic shell clustering. In: Torra V, Narukawa Y, et al (Eds.): Modeling Decisions in Artificial Intelligence, Springer, LNCS vol. 8825, pp. 158-169 (2014) 2. Szilágyi L, Dénesi G, Szilágyi SM: Fast color reduction using approximative c-means clustering models. IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2014, Beijing), pp. 194-201 (2014), ISBN: 978-1-4799-2073-0 3. Szilágyi L, Dénesi G, Kovács L, Szilágyi SM: Comparison of various improved-partition fuzzy c-means clustering algorithms in fast color reduction. 12th IEEE International Symposium on Intelligent Systems and Informatics (SISY 2014, Subotica), pp. 197-202 (2014), ISBN: 978-1-4799-5996-9 4. Szilágyi L, Nagy LL, Szilágyi SM: Recent advances in improving the memory efficiency of the TRIBE MCL algorithm. In: Arik S, et al (Eds): Neural Information Processing, Springer, LNCS, vol. 9490, pp. 28-35 (2015) 5. Gosztolya G, Szilágyi L: Application of fuzzy and possibilistic c-means clustering models in blind speaker clustering. Acta Polytechnica Hungarica 12(7):41-56, ISSN 1785-8860, IF: 0.649 (2015) 6. Szilágyi L, Lefkovits L, Benyó B: Automatic brain tumor segmentation in multispectral MRI volumes using a fuzzy c-means cascade algorithm. 12th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2015), pp. 310-316, 2015, ISBN 978-1-4673-7681-5 +4 lucrări de diplomă BSc	9

Membru în comisii de evaluare a tezelor de doctorat la o universitate din top			3
Universitatea	**Candidat**	**Categoria**	**Punctaj**
University of Veszprém, Hungary	Krisztina SZAKOLCZAY	-	0
University of Canterbury, Christchurch, New Zealand	Ummu Kulthum JAMALUDIN	Top 500	1
University of Canterbury, Christchurch, New Zealand	Azurahisham SAH PRI	Top 500	1
University of Canterbury, Christchurch, New Zealand	Jacquelyn Dawn PARENTE	Top 500	1

Premii și alte merite	6
Premiul	
2015 – Robotics and Automation Award for Product Innovation, IEEE Robotics and Automation Society, cu echipa Hand-in-Scan	
2015 – "Top 10 Paper of Year 2014" publicat în Computers in Biology and Medicine (împreună cu coautorul: Szilágyi SM)	
2012 – Best Of Biotech - LISA VR Medtech Award (Vienna, Austria), cu echipa Hand-in-Scan	
2012 – EIB Social Innovation Tournament, 1st Prize (Luxembourg), cu echipa Hand-in-Scan	
2011 – ICPIC Innovation Academy Award, 1st Prize (Geneva, Switzerland), cu echipa Hand-in-Scan	
2011 – Outstanding Student Humanitarian Prize at IEEE Presidents' Change the World Competition, cu echipa Hand-in-Scan	
2011 – Innovact Campus Award, 1st Prize (Reims, France), cu echipa Hand-in-Scan	
2010 – János Bolyai Fellowship Award (Hungarian Academy of Sciences)	
Opt lucrări premiate în cadrul programul Resurse Umane – Premierea Rezultatelor (UEFISCDI)	

	Lehotsky Á, **Szilágyi L**, Ferenci T, Kovács L, Pethes R, Wéber G, Haidegger T: Quantitative impact of direct, personal feedback on hand hygiene technique. Journal of Hospital Infection 91(1):81-84 (2015), ISSN: 0195-6701, IF: 2.544
	Szilágyi L, Szilágyi SM: Generalization rules for the suppressed fuzzy c-means algorithm. Neurocomputing 139:298-309 (2014), ISSN: 0925-2312, IF: 2.083
	Szilágyi L: Lessons to learn from a mistaken optimization. Pattern Recognition Letters 36(1):29-35 (2014), ISSN: 0167-8655, IF: 1.551
	Szilágyi SM, **Szilágyi L**: A fast hierarchical clustering algorithm for large-scale protein sequence data sets. Computers in Biology and Medicine 48:94-101 (2014), ISSN: 0010-4825 IF: 1.475
	Szilágyi L, Haidegger T, Lehotsky Á, Nagy M, Csonka EA, Sun XY, Ooi KL, Fisher D: A large-scale assessment of hand hygiene quality and the effectiveness of the "WHO 6-steps". BMC Infectious Diseases 13(249):1-10 (2013), ISSN: 1471-2334, IF: 2.561
	Szilágyi L: Robust spherical shell clustering using fuzzy-possibilistic product partition. International Journal of Intelligent Systems 28(6):524-539 (2013), ISSN: 1098-111X, IF: 1.411
	Szilágyi L, Medvés L, Szilágyi SM: A modified Markov clustering approach to unsupervised classification of protein sequences. Neurocomputing 73(13-15):2332-2345 (2010), ISSN: 0925-2312, IF: 1.429
	Szilágyi L, Szilágyi SM, Benyó Z: Analytical and numerical evaluation of the suppressed fuzzy c-means algorithm: a study on the competition in c-means clustering models. Soft Computing 14(5):495-505, ISSN: 1432-7643, IF: 1.512