Lista de lucrări în domeniul de studii universitare de licenţă informatică

NUMELE ŞI PRENUMELE: KÁTAI ZOLTÁN

I. LISTA PUBLICAŢIILOR RELEVANTE

1. **Kátai, Z.**, Dynamic programming strategies on the decision tree hidden behind the optimising problems, *Informatics in Education*, 6, 2007, 1, 115–138.
2. **Kátai, Z.**, Juhász, K., Adorjáni, A., K., On the role of senses in education, *Computers & Education*, 51, 2008, 4, 1707–1717.
3. **Kátai, Z.**, Toth, L.,Technologically and artistically enhanced multi-sensory computer programming education, *Teaching and teacher education*, 26, 2010, 2, 244–251.
4. **Kátai, Z.**, Multi-sensory method for teaching-learning recursion, *Computer Applications in Engineering Education*, 19, 2011, 2, 234–243.
5. **Kátai, Z.**, Solving Markov Decision Processes by d-Graph Algorithms, *Control and Cybernetics*, 41, 2012, 3, 577–593.
6. **Kátai, Z.**, Intercultural Computer Science Education, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 183–188. (doi>10.1145/2591708.2591744)
7. **Kátai, Z.**, Selective Hiding for Improved Algorithmic Visualization, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 33–38. (doi>10.1145/2591708.2591734)
8. **Kátai, Z.**, ALGO-RYTHMICS: science and art without ethnic borders, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 329–329. (doi>10.1145/2591708.2602684) (poster)
9. **Kátai, Z.**, Algorithmic Thinking for ALL: a motivational perspective, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 353–353. (doi>10.1145/2591708.2602669) (poster)
10. **Kátai, Z.**, Toth, L., Adorjáni, A., K., Multi-sensory Informatics Education, *Informatics in Education*, 13, 2014, 2, 225–240. [SCOPUS (Elsevier), Zentralblatt]
11. **Kátai, Z.**, The challenge of promoting algorithmic thinking of both sciences and humanities oriented learners, *Journal of Computer Assisted Learning*, 31, 2015, 4, 287–299.
12. **Kátai, Z.**, Jánosi-Rancz Katalin Tünde, Iclănzan Dávid, Linking formal and informal structures based on faculty members email communication patterns, Proceedings of the 26th International Conference on Neural Information Processing (ICONIP), 12-15, December 2019, Australian Journal of Intelligent Information Processing Systems (AJIIPS), Vol. 17, No. 1, pp. 9-16.
13. **Kátai, Z.** (2020). Promoting computational thinking of both sciences- and humanities-oriented students: an instructional and motivational design perspective. *Educational*

Technology Research and Development, 68(5), 2239–2261.

14. Osztián, P. R., **Kátai, Z.**, & Osztián, E. (2020). Algorithm Visualization Environments: Degree of interactivity as an influence on student-learning. In *50th Annual Frontiers in Education Conference*.
15. **Kátai, Z.**, Osztián, E., & Lőrincz. B. (2021). Investigating the Computational Thinking Ability of Young School Students Across Grade Levels in Two Different Types of Romanian Educational Institutions. *Journal of New Approaches in Educational Research. 2021, 10*(2), 214-233. https://doi.org/10.7821/naer.2021.7.640
16. Iclanzan, D., & **Kátai, Z.** (2021, June). Increasing the Impact of Teacher Presence in Online Lectures. In *International Conference on Computational Science* (pp. 626-639). Springer, Cham.
17. **Kátai, Z.**, & Osztián, E. (2021). Improving AlgoRythmics Teaching-Learning Environment by Asking Questions. *International Journal of Instruction, 14*(2), 27-44.
18. Osztián, P. R., **Kátai, Z.**, & Osztián, E. (2022, September). On the computational thinking and diagrammatic reasoning of first-year computer science and engineering students. In *Frontiers in Education* (Vol. 7, p. 933316). Frontiers. https://doi.org/10.3389/feduc.2022.933316
19. **Kátai, Z.**, & Osztián, E. (2022). Visualizing Algorithms: Schematic Computer Animations versus Realistic Dance Choreography Illustrations. *Acta Polytechnica Hungarica 19*(1), 193-210. DOI: 10.12700/APH.19.1.2022.19.12
20. **Katai, Z.**, & Iclanzan, D. (2023). Impact of instructor on-slide presence in synchronous e-learning. *Education and Information Technologies, 28*(3), 3089-3115.
21. Iclanzan, D., & **Kátai, Z.** (2023, June). A Framework for Effective Guided Mnemonic Journeys. In *International Conference on Computational Science* (pp. 751-765). Cham: Springer Nature Switzerland.
22. **Katai, Z.**, & Osztian, E. (2023). Learning computer algorithms through dynamic visualizations: Benefits of 'AlgoRythmics' videos. *Journal of Computer Assisted Learning, 39*(6), 2035-2046. https://doi.org/10.1111/jcal.12864
23. Kátai, Z., Osztián, P. R., & Iclanzan, D. (2024). Enacting algorithms: Evolution of the algorythmics storytelling. Education and Information Technologies, 1-32. https://doi.org/10.1007/s10639-024-12617-y

II. LISTA COMPLETĂ DE PUBLICAŢII, CREAŢII, INVENŢII

A. Teza de doctorat

1. *Módszerek és eszközök az informatikaoktatás hatékonyságának növelésére (Metode şi instrumente didactice pentru eficientizarea procesului de predare-învăţare-evaluare a informaticii)*, Dr. Nyakóné Dr. Juhász Katalin, Universitatea Debreţin, Ungaria, „Summa cum laude".

B. Cărti publicate

B1. Cărţi (manuale, monografii, tratate, îndrumare etc.) publicate în străinătate

1. **Kátai Zoltán**, *C: nyelv és programozás (C: limbaj şi programare)*, Universitatea Debreţin, Ungaria, 2008, 270 pagini.
2. Nyakóné Juhász Katalin, Terdik György, Biró Piroska, **Kátai Zoltán**, Bevezetés az informatikába (Întroducere în informatică), Universitatea Debreţin, Ungaria, 2011.

   http://www.tankonyvtar.hu/hu/tartalom/tamop425/0046_bevezetes_az_informatikaba/index.html

B2. Cărţi (manuale, monografii, tratate, îndrumare etc.) publicate în ţară, la edituri recunoscute CNCSIS

1. **Kátai Zoltán**, *Programozás C nyelven (Programare în limbajul C)*, Editura Scientia, Cluj-Napoca, 2004, 240 pagini, ISBN 973-7953-27-4.
2. **Kátai Zoltán**, *Algoritmusok felülnézetből (Algoritmi – o privire de ansamblu)*, Editura Scientia, Cluj-Napoca, 2007, 251 pagini, ISBN 978-973-7953-74-2.
3. **Kátai Zoltán**, *Gráfelméleti algoritmusok (Algoritmica grafurilor)*, Editura Scientia, Cluj-Napoca, 2008, 248 pagini, ISBN 978-973-7953-95-7.
4. **Kátai Zoltán**, *Algoritmustervezési stratégiák (Strategii de programare al algoritmilor)*, Editura Scientia, Cluj-Napoca, 2020, 162 pagini, ISBN 978-606-975-037-7.
5. **Kátai Zoltán**, *Algorythmics: technologically and artistically enhanced computer science education*, Editura Scientia, Cluj-Napoca, 2021, 198 pagini, ISBN 978-606-975-044-5.

B3. Cărţi (manuale, monografii, tratate, îndrumare etc.) publicate la alte edituri sau pe plan local

B4. Cărţi (manuale, monografii, tratate, îndrumare etc.) publicate pe web

B5. Capitole de cărţi publicate în străinătate

B6. Capitole de cărţi publicate în ţară

1. **Kátai Zoltán**, Az IKT eszközök vs. az e-learning a romániai magyar tannyelvű középiskolai szakoktatásban (TIC vs. e-learning în învăţământul professional cu predare în limba maghiară din Romania), In "Anyanyelvoktatás. A magyar tannyelvű szakközépiskolai oktatás helyzete" (ed. Pletl Rita), vol. 5, p. 18-32, Editura Ábel, Cluj-Napoca, 2015, ISBN 978-973-114-210-4.
2. **Kátai Zoltán**, Szövegértelmezés és algoritmikus gondolkodás (Înţelegere de text şi gândirea algoritmică), In "Anyanyelvoktatás. Adottságok és lehetőségek a Magyar tannyelvű szakképzésben" (ed. Pletl Rita), vol. 6, p. 69-81, Editura Ábel, Cluj-Napoca, 2016, ISBN 978-973-114-224-1.
3. **Kátai Zoltán**, Harangus Katalin, Szövegértelmezés vs. számítógépes gondolkodás a tanárképzős hallgatók körében (Înţelegere de text şi gândirea computaţionala printre studenţii inrolaţi in modulul pedagogic), In "Anyanyelvoktatás. A magyar tannyelvű szakképzés jelene és jövőbeli kilátásai" (ed. Pletl Rita), vol. 7, p. 85-95, Editura Ábel, Cluj-Napoca, 2017, ISBN 978-973-114-246-3.

4. **Kátai Zoltán**, A problémamegoldó képesség fejlesztése az informatikaoktatásban (Dezvoltarea capacității de rezolvare a problemelor în predarea informaticii). In: Anyanyelvoktatás. Új kihívások — a tudás fogalmának változása. (Predarea limbii maghiare. Noi provocări – Schimbarea conceptului cunoașterii) ed. Pletl Rita, Editura Ábel, Cluj-Napoca, 2018. vol. 8, (57-68), ISBN 978-973-114-251-7
5. **Kátai Zoltán**, Komplex problémamegoldói képesség vizsgálata erdélyi középiskolás tanulók körében, In: Anyanyelvoktatás. A feladatmegoldástól a problémamegoldásig, ed. Pletl Rita, Editura Ábel, 2019. vol. 9, ISBN 978-973-114-261-6
6. **Kátai Zoltán**, Számítógépes gondolkodás mindenkinek: kihívások, lehetőségek és feladatok a romániai magyar középiskolai rendszerben, In: Anyanyelvoktatás. Érdekegyeztetés és együttműködés közoktatás és tanárképzés között, ed. Pletl Rita, Editura Ábel, 2020. vol. 10, ISBN 978-973-114-269-2
7. **Kátai Zoltán**, A XXI. századi informatika-tanárképzés kihívásai: számítógépes gondolkodás mindenkinek, In. Anyanyelvoktatás. Problémafeltáró vizsgálatok – problémamegoldó törekvések. (szerk. Pletl Rita). Editura Ábel, Cluj-Napoca, 2021, p. 50-62, ISBN 978-973-114-287-6.
8. **Kátai Zoltán**, Osztián Pálma Rozália, Számítógépes gondolkodás a tanárképzős hallgatók perspektívájából, In. Anyanyelvoktatás. A pedagógusképzés próbatétele: nevelés és oktatás egyensúlyának megteremtése. (szerk. Pletl Rita). Editura Ábel, Cluj-Napoca, 2022, ISBN 978-973-114-299-9.
9. **Kátai Zoltán**, Osztián Pálma Rozália, A piszkozathasználat számítógépes gondolkodásra gyakorolt hatása, In. Anyanyelvoktatás: A pedagógusjelöltek köznevelési feladatokra való felkészülése. (szerk. Pletl Rita). Editura Ábel, Cluj-Napoca, 2023, vol. 13, pp. 73-98, ISBN 978-973-114-314-9.

C. Lucrări ştiinţifice publicate

C1. Lucrări ştiinţifice publicate în reviste cotate ISI

1. **Kátai, Z.**, Juhász, K., Adorjáni, A., K., On the role of senses in education, *Computers & Education*, 51, 2008, 4, 1707–1717.
2. **Kátai, Z.**, Toth, L.,Technologically and artistically enhanced multi-sensory computer programming education, *Teaching and teacher education*, 26, 2010, 2, 244–251.
3. **Kátai, Z.**, Multi-sensory method for teaching-learning recursion, *Computer Applications in Engineering Education*, 19, 2011, 2, 234–243.
4. **Kátai, Z.**, Solving Markov Decision Processes by d-Graph Algorithms, *Control and Cybernetics*, 41, 2012, 3, 577–593.
5. **Kátai, Z.**, The challenge of promoting algorithmic thinking of both sciences and humanities oriented learners, *Journal of Computer Assisted Learning*, 31, 2015, 4, 287–299, ISSN: 1365-2729. (doi>10.1111/jcal.12070)
6. **Kátai, Z.** (2020). Promoting computational thinking of both sciences- and humanities-oriented students: an instructional and motivational design perspective. *Educational Technology Research and Development, 68*(5), 2239–2261
7. **Kátai, Z.**, Osztián, E., & Lőrincz. B. (2021). Investigating the Computational Thinking Ability of Young School Students Across Grade Levels in Two Different

Types of Romanian Educational Institutions. *Journal of New Approaches in Educational Research. 2021, 10*(2), 214-233. https://doi.org/10.7821/naer.2021.7.640

8. **Katai, Z.**, & Iclanzan, D. (2023). Impact of instructor on-slide presence in synchronous e-learning. *Education and Information Technologies, 28*(3), 3089-3115.
9. **Katai, Z.**, & Osztian, E. (2023). Learning computer algorithms through dynamic visualizations: Benefits of 'AlgoRythmics' videos. *Journal of Computer Assisted Learning, 39*(6), 2035-2046. https://doi.org/10.1111/jcal.12864
10. Kátai, Z., Osztián, P. R., & Iclanzan, D. (2024). Enacting algorithms: Evolution of the algorythmics storytelling. Education and Information Technologies, 1-32. https://doi.org/10.1007/s10639-024-12617-y

C2. Lucrări ştiinţifice publicate în reviste indexate în baze de date internaţionale (indicaţi şi baza de date)

1. **Kátai, Z.**, "Upperview" algorithm design in teaching computer science in high schools, *Teaching Mathematics and Computer Science*, 3, 2005, 2, 221–241. [Zentralblatt, MathDi, 2006b.00869]
2. **Kátai, Z.**, Dynamic programming and d-graphs, *Studia Universitatis Babes-Bolyai - Series Informatica*, LI, 2006, 2, 41–52. [Zmath, Zbl 1118.90324]
3. **Kátai, Z.**, Dynamic programming strategies on the decision tree hidden behind the optimising problems, *Informatics in Education*, 6, 2007, 1, 115–138. [SCOPUS (Elsevier), ME 2010c.005kl23 io-port 50212215 Zentralblatt]
4. **Kátai, Z.**, „Frontier algorithms", *Teaching Mathematics and Computer Science*, 6, 2008, 1, 139–152. [ME 2009e.00684 Zentralblatt]
5. **Kátai, Z.**, Dynamic programming as optimal path problem in weighted digraphs, Acta Mathematica Academiae Paedagogicae Nyíregyháziensis, 24, 2008, 2, 201–208. [ElibM, io-port 05530093 Zentralblatt]
6. **Kátai, Z.**, The single-source shortest paths algorithms and the dynamic programming, *Teaching Mathematics and Computer Science*, 6, 2008, INFODIDACT, 25–35. [Zentralblatt]
7. Zsakó, L., Juhász, K., **Kátai, Z.**, ICT-Methodology, *Teaching Mathematics and Computer Science*, 6, 2008, INFODIDACT, 3–24. [Zentralblatt]
8. **Kátai, Z.**, Kovács, I. L., Towers of Hanoi – where programming techniques blend, *Acta Universitatis Sapientiae, Informatica*, 1, 2009, 1, 89–108. [io-port 05562327 Zentralblatt]
9. **Kátai, Z.**, Csíki, Á., Automated dynamic programming, *Acta Universitatis Sapientiae, Informatica*, 1, 2009, 2, 149–164. [io-port 05605531 Zentralblatt]
10. **Kátai, Z.**, Modelling dynamic programming problems by generalized d–graphs, *Acta Universitatis Sapientiae, Informatica*, 2, 2010, 2, 210–230. [io-port 05896714 Zentralblatt]
11. **Kátai, Z.**, Kovács, L. I., Kása, Z., Márton, Gy., Fogarasi, K., Fogarasi, F., Cultivating algorithmic thinking: an important issue for both technical and HUMAN sciences, *Teaching Mathematics and Computer Science*, 9, 2011, 1, 1–10. [ME 2012a.00772

Zentralblatt]

12. Kása, Z., **Kátai, Z.**, Scattered subwords and composition of natural numbers, *Acta Universitatis Sapientiae, Informatica*, 4, 2012, 2, 225–236. [Zmath, Zbl 06315449]
13. Bege, A., **Kátai, Z.**, Sierpinski-like triangle-patterns in Bi- and Fibo-nomial triangles, *Annales Mathematicae et Informaticae*, 41, 2013, 1, 5–12. [SCOPUS (Elsevier), Zmath, Zbl 1274.11034]
14. **Kátai, Z.**, Multi-sensory Informatics Education, *Informatics in Education*, 13, 2014, 2, 225–240. [SCOPUS (Elsevier), Zentralblatt]
15. Jánosi-Rancz, K. T., **Kátai, Z.,** & Bogosi, R., Sapiness–sentiment analyser. *Acta Universitatis Sapientiae, Informatica*, 7, 2015, 2, 186–199. DOI: 10.1515/ausi-2015-0018
16. Harangus, K., & **Kátai, Z.** (2020). Computational Thinking in Secondary and Higher Education. *Procedia Manufacturing*, *46*, 615-622.
17. **Kátai, Z.**, & Osztián, E. (2021). Improving AlgoRythmics Teaching-Learning Environment by Asking Questions. *International Journal of Instruction*, 14(2), 27-44.
18. **Katai, Z.**, & Elekes, A. (2021). DP-solver: automating dynamic programming. Acta Universitatis Sapientiae, Informatica, 13(2), 361-372.
19. Osztián, P. R., **Kátai, Z.**, & Osztián, E. (2022, September). On the computational thinking and diagrammatic reasoning of first-year computer science and engineering students. In *Frontiers in Education* (Vol. 7, p. 933316). Frontiers. https://doi.org/10.3389/feduc.2022.933316
20. **Kátai, Z.**, & Osztián, E. (2022). Visualizing Algorithms: Schematic Computer Animations versus Realistic Dance Choreography Illustrations. *Acta Polytechnica Hungarica 19*(1), 193-210. DOI: 10.12700/APH.19.1.2022.19.12
21. Osztián, P. R., **Kátai, Z.**, Sántha, Á., & Osztián, E. (2022). Investigating the AlgoRythmics YouTube channel: the Comment Term Frequency Comparison social media analytics method. *Acta Universitatis Sapientiae, Informatica*, *14*(2), 273-301.

C3. Lucrări ştiinţifice publicate în reviste din străinătate (altele decât cele menţionate anterior)

1. **Kátai Zoltán**, Proof without words, *Teaching Mathematics and Computer Science*, 3, 2005, 2, 331.

C4. Lucrări ştiinţifice publicate în reviste din ţară, recunoscute CNCSIS (altele decât cele din baze de date internaţionale)

1. **Kátai, Z.**, Algo–ritmika mindenkinek (Algo-ritmica pentru toţi), *Műszaki Tudományos Közlemények*, 2, 2015, http://eda.eme.ro/handle/10598/28531.

C5. Lucrări ştiinţifice publicate în reviste, altele decât cele menţionate anterior

C6. Lucrări ştiinţifice publicate în volumele manifestărilor ştiinţifice

1. **Kátai, Z.**, Hogyan tanítsuk a programozási technikákat? (Cum să predăm tehnicile de

programare?), *Szamokt 2004, 14th International Conference In Computer Science And Education*, EMT, Cluj-Napoca, Romania, 2004, 50–56.

2. **Kátai, Z.**, Programozási technikák felülnézetből (Tehnici de programare – o privire de ansamblu), *Szamokt 2005, 15th International Conference In Computer Science And Education*, EMT, Cluj-Napoca, Romania, 2005, 139–146.
3. **Kátai, Z.**, Algoritmus tervezés - Didaktikai szempontok (Proiectarea de algoritmilor – aspecte didactice), *Informatika a felső oktatásban (Informatica în învăţământul superior)*, Debreţin, Ungaria, 2005, 168.
4. **Kátai, Z.**, Máthé, Sz., "Who wants to be an eminent?" - Assessment method and software, *7th International Conference on Applied Informatics, Vol. 2*, Eger, Ungaria, 2007, 37–44.
5. **Kátai, Z.**, Algoritmusok felülnézetből (Algoritmi – o privire de ansamblu), *Informatika a felső oktatásban (Informatica în învăţământul superior)*, Debreţin, Ungaria, 2008, 117.
6. **Kátai, Z.**, Tóth, L., Algo-ritmika (Algo-ritmică), *Szamokt 2008, 18th International Conference In Computer Science*, EMT, Şumulea-Ciuc, Romania, 2008, 160–165.
7. Kovács, L. I., **Kátai, Z.**, Milyen programozási technikákkal oldható meg a Hanoi tornyai feladat? (Cu ce tehnici de programare poate fi rezolvată problema turnurilor din Hanoi?), *Szamokt 2008, 18th International Conference In Computer Science*, EMT, Şumulea-Ciuc, Romania, 2008, 185–192.
8. Kása, Z., **Kátai, Z.**, Legrövidebb utak alkalmazásai hálózatokban (Application of Shortest path algorithms in networks), *2nd International Economic Conference*, Kaposvár, Ungaria, 2009.
9. **Kátai, Z.**, „Cocktail-learning" a marosvásárhelyi Sapientian („Cocktail-learning" la Universitatea Sapientia), *Szamokt 2009, 19th International Conference In Computer Science*, EMT, Tirgu Mures, Romania, 2009, 243–246.
10. **Kátai, Z.**, Fülöp, P. I., Modeling dynamic programming problems: Petri nets versus d-graphs, *Proceedings of the 8th International Conference on Applied Informatics*, *Vol. 1*, Eger, Ungaria, 2010, 217–226.
11. **Kátai, Z.**, Solving Markov Decision Processes by d-graph algorithms, *Proceedings of the 3rd International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics (MACRo2011)*, Tirgu Mures, Romania, 2011, 63–74.
12. **Kátai, Z.**, Füzesi, A., Bubble-sort with "Csángó" folk dance, „*Mathematics, Music, Art, Architecture, Culture", Bridges Conference (Short Movie Festival)*, Coimbra, Portugalia, 2011.

    (http://bridgesmathart.org/past-conferences/bridges-2011/2011-short-movie-festival/**)**
13. **Kátai, Z.**, Intercultural Computer Science Education, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 183–188. (doi>10.1145/2591708.2591744)
14. **Kátai, Z.**, Selective Hiding for Improved Algorithmic Visualization, *Proceedings of the 2014 conference on Innovation & technology in computer science education*,

ACM New York, NY, USA, 2014, 33–38. (doi>10.1145/2591708.2591734)

15. **Kátai, Z.**, ALGO-RYTHMICS: science and art without ethnic borders, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 329–329. (doi>10.1145/2591708.2602684) (poster)
16. **Kátai, Z.**, Algorithmic Thinking for ALL: a motivational perspective, *Proceedings of the 2014 conference on Innovation & technology in computer science education*, ACM New York, NY, USA, 2014, 353–353. (doi>10.1145/2591708.2602669) (poster)
17. Kátai Zoltán, Osztián Erika, Vekov Géza, Promoting computational thinking by artistically enhanced algorithm visualization, INFODIDACT, Zamárdi, Ungaria, 24-25 Noiembrie, 2016. (http://people.inf.elte.hu/szlavi/InfoDidact16)
18. Sándor, H., Haller, P., Genge, B., & Kátai, Z. (2017, July). Optimally scheduled interventions in the presence of vulnerabilities for modern cyber-physical systems. In *2017 IEEE 15th International Conference on Industrial Informatics (INDIN)*, (pp. 115-120). IEEE.
19. OSZTIÁN Pálma, KÁTAI Zoltán, OSZTIÁN Erika, VEKOV Géza Károly. 2017. Algoritmika és művészet, avagy kupacrendezés kalotaszegi módra (Algoritmică și artă: heap-sort în stil "kalotaszegi"). *Szamokt 2017, 27th International Conference In Computer Science*, EMT, 199-203, 2017, ISSN 1842-4546.
20. Katai, Z., Osztian, E., Vekov, G., K. 2017. Multi-dimensional expansion of algorythmics. *Proceedings of the 8th International Conference on New Horizons in Education, INTE'2017*. Turkish Online Journal of Educational Technology, Special Issue, November 2017, pp. 573-578, ISSN 2146-7242. (http://www.tojet.net/special/2017_11_2.pdf) [Eric, Scopus]
21. Kátai Zoltán, Osztián Erika, Vekov Géza Károly, Osztián Pálma Rozália, Algo-Ritmică: noi dimensiuni, *INFODIDACT*, Zamárdi, Ungaria, 23-24 Noiembrie, 2017. (http://people.inf.elte.hu/szlavi/InfoDidact17/)
22. Harangus, K., Katai, Z. 2018. Algorithmic thinking vs. text comprehension. *11th International Conference in Interdisciplinarity in Engineering, INTER-ENG*. 5-6 Octombrie, 2017, Tîrgu-Mureş, Romania, Procedia Manufacturing, Vol. 22, pp. 1031–1037. https://doi.org/10.1016/j.promfg.2018.03.146
23. KÁTAI Zoltán. 2018. Számítógépes gondolkodás fejlesztése az Algo-rythmics környezetben (Promovarea gândirii computaționale în mediul de învățare Algo-rythmics). *Szamokt 2018, 28th International Conference In Computer Science*, EMT, 218-224, 2018, ISSN 1842-4546.
24. KÁTAI Zoltán, OSZTIÁN Erika. 2018. Algoritmikus gondolkodás fejlesztése különböző korosztályú és szakos tanulóknál (Promovarea gândirii computaționale la elevi cu vârste și profiluri diferite). *Szamokt 2018, 28th International Conference In Computer Science*, EMT, 225-230, 2018, ISSN 1842-4546.
25. Katai, Z., Osztian, E., Lorincz, B. 2018. The Effect Of Multiple Graphical Representations On Learning Algorithms. *Proceedings of the 9th International Conference on New Horizons in Education, INTE'2018*. Turkish Online Journal of Educational Technology, Special Issue, Novenber 2018, Vol. 2, pp. 703-708, ISSN 2146-7242. (http://www.tojet.net/special/2018_12_3.pdf)
26. Nagy, E.J., Osztián, P.R., Cosma, C., Kátai, Z. & Osztián, E. (2019). Looking for the Optimal Interactivity Level in the AlgoRythmics Learning Environment. In J. Theo

Bastiaens (Ed.), Proceedings of EdMedia + Innovate Learning (pp. 106-114). Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE). (https://www.learntechlib.org/primary/p/209995/)

27. Kátai Zoltán, Jánosi-Rancz Katalin Tünde, Iclănzan Dávid, Linking formal and informal structures based on faculty members email communication patterns, Proceedings of the 26th International Conference on Neural Information Processing (ICONIP), 12-15, December 2019, Australian Journal of Intelligent Information Processing Systems (AJIIPS), Vol. 17, No. 1, pp. 9-16.

    http://ajiips.com.au/iconip2019/docs/ajiips/v17n1.pdf

28. Osztián, P. R., Kátai, Z., & Osztián, E. (2020). Algorithm Visualization Environments: Degree of interactivity as an influence on student-learning. In *50th Annual Frontiers in Education Conference*.

29. Kátai Zoltán, Osztián Erika, Osztián Pálma Rozália, Algoritmus Vizualizációs Környezetek: Az interaktivitás hatása a tanulási eredményekre. In: Zsakó László, Szlávi Péter (szerk.): *InfoDidact' 2020*, Zamárdi, Magyarország, Webdidaktika az Oktatásért és az Információs Társadalomért Alapítvány, 2020, pp. 1–14., ISBN 978-615-80608-4-4

30. Iclanzan, D., & Kátai, Z. (2021, June). Increasing the Impact of Teacher Presence in Online Lectures. In *International Conference on Computational Science* (pp. 626-639). Springer, Cham.

31. Osztián Pálma Rozália, Kátai Zoltán, Osztián Erika. A középiskolai tanulmányok hozadéka a számítógépes gondolkodás perspektívájából. In: Zsakó László, Szlávi Péter (szerk.): *InfoDidact' 2021*, Zamárdi, Magyarország, Webdidaktika az Oktatásért és az Információs Társadalomért Alapítvány, 2022, pp. 91–112, ISBN 978-615-80608-5-1

32. Osztián Pálma Rozália, Kátai Zoltán, Osztián Erika. 2021. AlgoRythmics online oktatási környezet (Mediul de învățare online AlgoRythmics). *Szamokt 2021*, *31th International Conference In Computer Science*, EMT, 70-80, 2021, ISSN 2734-6757.

33. Osztián Pálma Rozália, Kátai Zoltán, Osztián Erika. Doodling és algoritmika. In: Zsakó László, Szlávi Péter (szerk.): *InfoDidact' 2022*, Zamárdi, Magyarország, Webdidaktika az Oktatásért és az Információs Társadalomért Alapítvány, 2022, pp. 1-21, ISBN 978-615-80608-6-8

34. Osztián, P. R., Kátai, Z., & Osztián, E. (2023). Doodling and Algorithmics. In *EDULEARN23 Proceedings* (pp. 2757-2766). IATED.

35. Kakucs, A., Kátai, Z., & Harangus, K. (2023, February). A Context-Based Approach to Teaching Dynamic Programming. In *Proceedings of the International Conference on Paradigms of Computing, Communication and Data Sciences: PCCDS 2022* (pp. 671-683). Singapore: Springer Nature Singapore.

36. Iclanzan, D., & Kátai, Z. (2023, June). A Framework for Effective Guided Mnemonic Journeys. In *International Conference on Computational Science* (pp. 751-765). Cham: Springer Nature Switzerland.

37. Kátai, Z., Osztián, P. R., Osztián, E., & Sántha, Á. (2023, July). Investigating the impact of a new AlgoRythmics performance on art students enlivening algorithmic scenarios on stage. In *Proceedings of the International Conference on New Horizons in Education* (pp. 467-478).

https://www.int-e.net/publication_folder/inte/inte-istec-iticam-icqh-itec-2023-proceeding-book.pdf

38. Sántha, Á., Osztián, P. R., Osztián, E., & Kátai, Z. (2023, July). The gender effect in computational thinking among first-year university students at the Sapientia Hungarian University of Transylvania. In *Sociology of Education: Wellbeing and Resilience in the Times of Crisis* (book 2, pp. 91-100), Warsaw, Poland.

https://www.aps.edu.pl/media/00gpyeg4/wellbeing_and_resilience_e-book_2.pdf

D. Traduceri de cărţi, capitole de cărţi, alte lucrări ştiinţifice

E. Editare, coordonare de volume

F. Invenţii

G. Contracte de cercetare (menţionaţi calitatea de director sau membru)

1. *„Legătura dintre tehnicile de programare şi teoria grafurilor”*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 13.098 RON, director, 2007-2008.
2. *„Legătura dintre tehnicile de programare şi teoria grafurilor”*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 12.200 RON, director, 2008-2009.
3. *„Data-mining şi sentiment-analysis în reţele de socializare pentru a îmbunătăţi sistem managementul universităţilor”*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 12.000 RON, director, 2015-2016 (coordinator)
4. *„Egységes, interaktív, többérzékszerves elektronikus oktatási környezet a számítógépes gondolkodás fejlesztéséhez” (Mediu de învăţare unitar, interactiv si multisenzorial pentru dezvoltarea gândirii computaţionale)*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 14.000 RON, director, 2017-2018 (coordinator)
5. *„Matematică discretă”*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 12.000 RON, membru, 2008-2009.
6. *„Matematică discretă”*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 45.000 RON, membru, 2009-2012.
7. „*Az anyanyelvű szakképzés helyzete, problémái a tanulás (középiskolások) és tanítás (tanárok) viszonylatában*” *(Educarea în limba maternă a elevilor din instituţii cu profil tehnologic)*, Institutul de Cercetări al Fundaţiei Sapientia (KPI), 7.000 RON, membru, 2013-2014.
8. *„Az anyanyelvű szakképzés helyzete, problémái kétnyelvű oktatási rendszerben az oktatás körülményei (intézményi hálózat) és szereplői (tanár, diák) viszonylatában” (Situaţia educaţiei profesionale în limba maternă: problema structurii şi participării (profesorilor şi elevilor) într-un sistem bilingv),* Institutul de Cercetări al Fundaţiei Sapientia (KPI), 16.000 RON, membru, 2015-2016.
9. *„A problémamegoldó képesség vizsgálata különböző műveltségi területeken (szövegértés, szövegalkotás, matematikai / számítógépes gondolkodás)” (Evaluarea capacităţii de rezolvare a problemelor complexe pe diferite arii curriculare*

(înțelegerea textului, compunerea textului, gândire matematică/computeţională)), Institutul de Cercetări al Fundaţiei Sapientia (KPI), 14.000 RON, membru, 2017-2018

10. „*Emberközpontú algoritmusvizualizáció a számítógépes gondolkodás fejlesztése céljából*" (*Promovarea gândirii computaţionale prin vizualizări algoritmice centrate pe om*), Institutul de Cercetări al Fundaţiei Sapientia (KPI), 10.000 EURO, director, 2022–2023

Alte proiecte:

11. TAMOP 4.1.2-08/1/A (Social Revival Operative Programme), Guvernul Ungariei / Uniunea Europeană, 2.570.000 Ft (~37.000 RON), membru.
12. „ALGO-RITMICĂ: ştiinţă şi artă fără frontiere etnice", Guvernul Ungariei (Programului „Szülőföld-alap"), 2.000.000 Ft (~29.000 RON), director, 2009-2010.

H. Creaţia artistică

H1 Participări la manifestaţii artistice internaţionale
H2. Participări la manifestaţii artistice naţionale
H3. Expoziţii, filme, spectacole, concerte, discuri de autor, opere internaţionale
H4. Expoziţii, filme, spectacole, concerte, discuri de autor, opere naţionale
H5. Produse cu drept de proprietate intelectuală în domeniul artistic

I. Premii, distincţii

1. 2013 Best Practices in Education Award (Informatics Europe) (http://www.informatics-europe.org/services/curriculum-award.html) (Zoltan Katai, Laszlo Toth and Alpar Karoly Adorjani: "Multi-Sensory Informatics Education").

J. Citări
(615 citări conform cu Google scholar)

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K1. Alte realizări semnificative (Participări la conferinţe naţionale şi internaţionale)

1. **Kátai Zoltán**, Hogyan tanítsuk a programozási technikákat? (Cum să predăm tehnicile de programare?), *Szamokt 2004, 14th International Conference In Computer Science And Education*, EMT, Cluj-Napoca, 25-28 Martie 2004.
2. **Kátai Zoltán**, Programozási technikák felülnézetből (Tehnici de programare – o privire de ansamblu), *Szamokt 2005, 15th International Conference In Computer Science And Education*, EMT, Cluj-Napoca, 17-20 Martie 2005.
3. **Kátai Zoltán**, Algoritmus tervezés - Didaktikai szempontok (Proiectarea de algoritmilor – aspecte didactice), *Informatika a felső oktatásban (Informatica în învăţământul superior)*, Conferinţa internaţionala, Debrecen, Ungaria, 24-26 August 2005.
4. **Kátai Zoltán**, „Legyél te is eminens" - értékelési módszer és eszköz (Fii şi tu eminent – metodă şi instrument didactic), *Conferinţă ştiinţifică organizată cu ocazia*

„Zilei Ştiinţei în Transilvania”, Miercurea Ciuc, 25-26 Noiembrie 2006.

5. **Kátai Zoltán**, Máthé Szabolcs, "Who wants to be an eminent?" - Assessment method and software, *7th International Conference on Applied Informatics*, Eger, Ungaria, 28-31 Ianuarie 2007.
6. **Kátai Zoltán**, Algoritmusok felülnézetből (Algoritmi – o privire de ansamblu), *Conferinţă ştiinţifică a departamentului de Matematică şi Informatică a Facultăţii Sapientia*, Tg-Mureş, 18 Mai 2007.
7. **Kátai Zoltán**, „Automatizált” dinamikus programozás (Programare dinamică „automatizată”), *Conferinţă ştiinţifică organizată cu ocazia „Zilei Ştiinţei în Transilvania”*, Cluj Napoca, 16 Noiembrie 2007.
8. **Kátai Zoltán**, Legrövidebbút algoritmusok és Dinamikus programozás (Algoritmi de drum minim şi Programarea dinamică), *INFODIDACT, Conferinţă în domeniul didactica predării informaticii*, Szombathely, Ungaria, 11-12 Aprilie 2008.
9. **Kátai Zoltán**, Csiki Ágnes, “Automated” Dynamic programming, *MACS - 7th Joint Conference on Mathematics and Computer Science*, Cluj-Napoca, 3-6 Iulie 2008.
10. **Kátai Zoltán**, Algoritmusok felülnézetből (Algoritmi – o privire de ansamblu), *Informatika a felső oktatásban (Informatica în învăţământul superior)*, Conferinta internationala, Debrecen, Ungaria, 27-29 August 2008.
11. **Kátai Zoltán**, Tóth László, Algo-ritmika (Algo-ritmică), *Szamokt 2008, 18th International Conference In Computer Science*, EMT, Şumulea-Ciuc, 10-12 Octombrie 2008.
12. Kovács Lehel István, **Kátai Zoltán**, Milyen programozási technikákkal oldható meg a Hanoi tornyai feladat? (Cu ce tehnici de programare poate fi rezolvată problema turnurilor din Hanoi?), *Szamokt 2008, 18th International Conference In Computer Science*, EMT, Şumulea-Ciuc, 10-12 Octombrie 2008.
13. Kása Zoltán, **Kátai Zoltán**, Legrövidebb utak alkalmazásai hálózatokban (Application of Shortest path algorithms in networks), *2nd International Economic Conference*, Kaposvár, Ungaria, 2-3 Aprilie 2009.
14. **Kátai Zoltán**, Technológiailag és művészi elemekkel dúsított több-érzékszerves programozás oktatás (Technologically and artistically enhanced multi-sensory computer programming education), *MatInfo 2009 (Conferinţă organizată de Departamentul de Matematică-Informatică al Universităţii Sapientia)*, Tg-Mureş, 8 Iunie 2009.
15. **Kátai Zoltán**, „Algo-ritmika”: multimédia, szerepalakítás és tánc a programozás oktatásban („Algo-ritmică”: multimedia şi dans în predarea-învăţarea programării), *Multimedia az oktatásban 2009*, Debrecen, Ungaria, 24-25 Iunie 2009.
16. **Kátai Zoltán**, „Cocktail-learning” a marosvásárhelyi Sapientian („Cocktail-learning” la Universitatea Sapientia), *Szamokt 2009, 19th International Conference In Computer Science*, EMT, Tirgu Mures, 8-11 Octombrie 2009.
17. **Kátai Zoltán**, Garda-Mátyás Edit, Algoritmustervezési stratégiák gráfelméleti háttere (Legătura dintre tehnicile de programare şi teoria grafurilor), „Az EME 150 éves” – Conferință memorială, Miercurea Ciuc, 6-7 Noiembrie 2009.
18. **Kátai Zoltán**, Fülöp Péter István, Modeling dynamic programming problems: Petri nets versus d-graphs, *8th International Conference on Applied Informatics*, Eger,

Ungaria, 27-30 Ianuarie 2010.

19. **Kátai Zoltán**, Két-agyféltekés programozás-oktatás a marosvásárhelyi Sapientián (Programarea calculatoarelor antrenând ambele emisfere al creierului), *INFODIDACT, Conference in Informatics-didactics*, Szombathely, Ungaria, 22-23 Aprilie 2010.
20. **Kátai Zoltán**, Solving Markov Decision Processes by d-graph algorithms, *The 3rd International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics (MACRo2011)*, Tîrgu Mureş, 8-9 Aprilie 2011.
21. **Kátai Zoltán**, Interkulturális programozás-oktatás a marosvásárhelyi Sapientián (Metodă interculturală de predare-învăţare a programării calculatoarelor la Universitatea Sapientia), *INFODIDACT, Conference in Informatic-didactics*, Szombathely, Ungaria, 31 Martie - 1 Aprilie 2011.
22. **Kátai Zoltán**, Algo-ritmika: tudomány és művészet etnikai határok nélkül (Algo-ritmică: Ştiinţă şi artă fără frontiere etnice), *MatInfo 2011 (Conferinţă organizată de Departamentul de Matematică-Informatică, Universitatea Sapientia)*, Tg-Mureş, 5 Iunie 2011.
23. Kása Zoltán, **Kátai Zoltán**, Scattered subwords and composition of natural numbers, *MACS - 9th Joint Conference on Mathematics and Computer Science*, Siófok, Ungaria, 9-12 Februarie 2012.
24. Bege Antal, **Kátai Zoltán**, Sierpinski-like triangle-patterns in Fibonomial triangles, *15th International Conference on Fibonacci Numbers and Their Applications*, Eger, Ungaria, 25-30 Iunie 2012.
25. Vekov Géza, Györfi Ágnes, **Kátai Zoltán**, Differenciált programozás-oktatás a marosvásárhelyi Sapientia EMTE-n (Metode diferenţiate de predare a programării calculatoarelor la Universitatea Sapientia), *INFODIDACT, Conference in Informatic-didactics*, Zamárdi, Ungaria, 15-16 Noiembrie 2012.
26. **Kátai Zoltán**, Intercultural Computer Science Education, *The 2014 conference on Innovation & technology in computer science education*, Uppsala, Suedia, 23-25 Iulie 2014.
27. **Kátai Zoltán**, Selective Hiding for Improved Algorithmic Visualization, *The 2014 conference on Innovation & technology in computer science education*, Uppsala, Suedia, 23-25 Iulie 2014.
28. **Kátai Zoltán**, ALGO-RYTHMICS: science and art without ethnic borders, *The 2014 conference on Innovation & technology in computer science education*, Uppsala, Suedia, 23-25 Iulie 2014.
29. **Kátai Zoltán**, Algorithmic Thinking for ALL: a motivational perspective, *The 2014 conference on Innovation & technology in computer science education*, Uppsala, Suedia, 23-25 Iulie 2014.
30. **Kátai Zoltán**, Algorithm-visualisation: when less can be more, *Conferinţă ştiinţifică organizată cu ocazia „Zilei Ştiinţei în Transilvania”*, Cluj-Napoca, Romania, 15 Noiembrie, 2014.
31. **Kátai Zoltán**, Algorithmics for ALL, *Conferinţă ştiinţifică organizată cu ocazia „Zilei Ştiinţei în Transilvania”*, Cluj-Napoca, Romania, 21 Noiembrie, 2014.
32. **Kátai Zoltán**, Jánosi-Rancz Katalin Tünde, Characterizing the distance between formal and informal organizational structures, *MathInfo*, Targu Mures, Romania, 2-4

septembrie, 2015.

33. Jánosi-Rancz Katalin Tünde, **Kátai Zoltán**, Sapiness – Sentiment Analyser, *MathInfo*, Targu Mures, Romania, 2-4 septembrie, 2015.
34. Kovács Lehel István, **Kátai Zoltán**, Towers of Hanoi - where paradigms are changed, *MathInfo*, Targu Mures, Romania, 2-4 septembrie, 2015.
35. Harangus Katalin, **Kátai Zolt**án, Információs és kommunikációs technológiák szerepe a közoktatásban és tanárképzésben (TIC în educaţia general şi pregătirea viitorilor profesori), *Ziua ştiinţei în Transilvania*, Targu Mures, Romania, Noiembrie 13-15, 2015.
36. **Kátai Zoltán**, Pletl Rita, Harangus Katalin, Vekov Géza, Szövegértés és algoritmikus gondolkodás (Înţelegere de text şi gândirea algoritmică), *Ziua ştiinţei în Transilvania*, Miercurea Ciuc, Romania, Noiembrie 13-15, 2015.
37. **Kátai Zoltán**, Szövegértelmezés vs. algoritmikus gondolkodás (Înţelegere de text vs. gândirea algoritmică), *INFODIDACT*, Zamárdi, Ungaria, Noiembrie 26-27, 2015.
38. Harangus Katalin, **Kátai Zoltán**, IKT eszközök és e-learning a magyar tannyelvű szak- és tanárképzésben (TIC şi e-learning în educaţia profesională şi pregătirea viitorilor profesori), *Ziua ştiinţei în Transilvania*, Targu Mures, Romania, Noiembrie 11, 2016.
39. **Kátai Zoltán**, Harangus Katalin, Szövegértelmezés versus algoritmikus gondolkodás (Înţelegere de text versus gândirea algoritmică), *Ziua ştiinţei în Transilvania*, Targu Mures, Romania, Noiembrie 11, 2016.
40. **Kátai Zoltán**, Osztián Erika, Vekov Géza, Számítógépes gondolkodás három tánclépésben (Promovarea gândirii computaţionale prin vizualizări de algoritmi înbogăţite artistic), *Ziua ştiinţei în Transilvania*, Cluj Napoca, Romania, Noiembrie 19, 2016.
41. Jánosi Rancz Tünde Katalin, **Kátai Zoltán**, Bogosi Roland, Formális vs. informális: adatbányászat és érzelemelemzés szervezeti ímél-hálózatokban (Formal vs. informal: data mining şi analiză sentimentală în reţele de email), *Ziua ştiinţei în Transilvania*, Cluj Napoca, Romania, Noiembrie 19, 2016.
42. **Kátai Zoltán**, Osztián Erika, Vekov Géza, Számítógépes gondolkodás három tánclépésben (Promovarea gândirii computaţionale prin vizualizări de algoritmi înbogăţite artistic), *INFODIDACT*, Zamárdi, Ungaria, Noiembrie 24-25, 2016.
43. **Katai, Z.**, Osztian, E., Vekov, G., K. 2017. Multi-dimensional expansion of algorythmics. 8th International Conference on New Horizons in Education, INTE'2017. July 17-19, 2017, Berlin, Germany.
44. **Kátai Zoltán**, Osztián Erika, Vekov Géza Károly. 2017. Számítógépes gondolkodás fejlesztése vegyes oktatási környezetben (Dezvoltarea gândirii computaționale în medii de învățare mixte). Multimedia în Educație (XXIII). Cluj, 9-10 iunie 2017.
45. **Kátai Zoltán**, Osztián Erika, Vekov Géza Károly, Osztián Pálma Rozália, Algo-Ritmică: noi dimensiuni, *INFODIDACT*, Zamárdi, Ungaria, 23-24 Noiembrie, 2017.
46. **Kátai Zoltán**, Jánosi-Rancz Katalin Tünde, Bogosi Roland, Linking formal and informal structures based on faculty members email communication patterns, *MathInfo*, Targu Mures, Romania, 7-9 septembrie, 2017.
47. **Kátai Zoltán**. Számítógépes gondolkodás fejlesztése az Algo-rythmics környezetben

(Promovarea gândirii computaționale în mediul de învățare Algo-rythmics). *Szamokt 2018, 28th International Conference In Computer Science*, EMT, Băile Tușnad, 11-14 Octombrie, 2018.

48. **Kátai Zoltán**, Osztián Erika, Dynamic visualizations in the AlgoRythmics environment, *MathInfo*, Targu Mures, Romania, 2-4 septembrie, 2019.
49. Kátai Zoltán, **Osztián Erika**, Lőrincz Beáta, Testing tool for investigating young school students' algorithmic thinking, *MathInfo*, Targu Mures, Romania, 2-4 septembrie, 2019.
50. **Nagy Eszter Jáhel**, **Osztián Pálma Rozália**, Cosma Cristian, Kátai Zoltán, Osztián Erika, Interactivity Effectiveness in the AlgoRythmics Universe, *MathInfo*, Targu Mures, Romania, 2-4 septembrie, 2019.
51. **Kátai Zoltán**, Iclanzan Dávid, EdTech and online teaching during the COVID-19 pandemic, *MathInfo*, Targu Mures, Romania, 9-10 septembrie, 2021.
52. András Kakucs, **Zoltán Kátai** and Katalin Harangus, A Context-Based Approach to Teaching Dynamic Programming, International Conference on Paradigms of Communication, Computing and Data Sciences (PCCDS 2022), Malaviya National Institute of Technology Jaipur, India, JULY 05-07, 2022.
53. **Zoltán Kátai**, Palma Rozalia Osztian, Erika Osztián, Agnes Santha, Investigating The Impact of a New Algorythmics Performance on Art Students Enlivening Algorithmic Scenarios on Stage, 14th International Conference on New Horizons in Education, Rome, Italy, July 27-28, 2023.
54. **Kátai Zoltán**, Transitioning the AlgoRythmics project from the dance floor to the stage, *MathInfo*, Targu Mures, Romania, 7-8 septembrie, 2023.

K2. Alte realizări semnificative (Referent ştiinţific, Recenzii, etc)

- Referent ştiinţific al cărţii: Ignát Judit Anna, Incze Katalin, Jakab Irma Tünde, *Informatika: Tankönyv a XI. osztály számára (Informatica: Manual pentru clasa a XI-a)*, Editura Abel, Cluj Napoca, 2006, ISBN (10)973-114-009-3, (13)978-973-114-009-4
- Recenzii la revista internaţională de specialitate indexată, *Teaching Mathematics and Computer Science*, Debrecen, Ungaria, 2007 –
- Recenzii la revista internaţională de specialitate cotată ISI, *Computers and Education*, 2008 –
- Recenzii la revista internaţională de specialitate cotată ISI, *Computer Applications in Engineering Education*, 2008 –
- Recenzii la revista internaţională de specialitate cotată ISI, *Journal of Computer Assisted Learning*, 2013 –
- Membru în comitetul de program a conferinţei organizată anual *INFODIDACT*.
- Membru în comitetul de program a conferinţei *MaCS (Mathematics and Computer Science)*.
- Membru în comitetul de program a conferinţei *MathInfo (International Conference in Mathematics and Informatics)*.

- Membru în Editor board-ul revistei Acta Universitatis Sapientiae - Informatica.
- Membru în Editor board-ul revistei Teaching Mathematics and Computer Science, Debrecen, Ungaria.
- Antrenorul echipelor *ACM* al Universităţii Sapientia. Locul 4 între echipele româneşti la regionala Europei sud-est, Bucureşti, 2006.
- Iniţiatorul şi organizatorul principal al concursului de programare internaţională *Sapientia-ECN*.

K3. Alte realizări semnificative (Alte articole):

1. Kátai Zoltán, Rekurzió egyszerűen és érdekesen (Recursivitate – într-un mod simplu şi interesant), *Firka*, 2002/2003-2/3/4/5/6, (ISSN 1224-371X), EMT Cluj-Napoca, p. 51-52, 100-102, 144-145, 194-196, 234-236.
2. Kátai Zoltán, Programozási technikák felülnézetből (Tehnici de programare – o privire de ansamblu), Firka, 2003/2004-4/5, EMT, Cluj-Napoca, 145-148, 190-192.
3. Kátai Zoltán, Dinamikus programozás (Programare dinamică), Firka, 2014/2015-2/3, EMT, Cluj-Napoca, 28-32, 28-32.

K4. Alte realizări semnificative (Instrumente didactice):

1. Quick-sort with Hungarian (Küküllőmenti legényes) folk dance.

   https://www.youtube.com/user/AlgoRythmics.
2. Merge-sort with Transylvanian-saxon (German) folk dance.

   https://www.youtube.com/user/AlgoRythmics.
3. Shell-sort with Hungarian (Székely) folk dance.

   https://www.youtube.com/user/AlgoRythmics.
4. Select-sort with Gypsy folk dance.

   https://www.youtube.com/user/AlgoRythmics.
5. Bubble-sort with Hungarian ("Csángó") folk dance.

   https://www.youtube.com/user/AlgoRythmics.
6. Insert-sort with Romanian folk dance.

   https://www.youtube.com/user/AlgoRythmics.
7. Shell-sort with Hungarian ("Mezőségi") folk dance.

   https://www.youtube.com/user/AlgoRythmics.
8. Backtracking ballet choreography.

   https://www.youtube.com/user/AlgoRythmics.
9. Linear-search with Flamenco dance.

   https://www.youtube.com/user/AlgoRythmics.
10. Binary-search with Flamenco dance.

    https://www.youtube.com/user/AlgoRythmics.
11. Technologically and artistically enhanced inter-cultural computer science education

http://algo-rythmics.ms.sapientia.ro/

12. Algorithmic Escape Room
    https://www.youtube.com/watch?v=4Ogkw6OP9-Q

1 septembrie 2024