

Personal information

László Kovács



 POB 400 Faculty of Informatics, University of Debrecen, Hungary

 +3652512900/72231  +36703640817

 kovacs.laszlo@inf.unideb.hu

 <http://www.inf.unideb.hu/~kovacs.laszlo>

Gender: Male | Date of Birth: 12/06/1984 | Nationality: Hungarian

POSITION

Researcher

WORK EXPERIENCE

2019- - **Nvidia Deep Learning Institute Certified Instructor and Ambassador (Nvidia, USA)**

University of Debrecen

- research
- development

Type of activity or sector: research and development

2019- - **Assistant Professor**

University of Debrecen, Faculty of Informatics, Department of Data Science and Visualization

- research
- development

Type of activity or sector: research and development

2018- - **PANDINFO Kft.**

- research
- development

Type of activity or sector: research and development

2017-2018 - **Sightspot Network Kft..**

- research
- development

Type of activity or sector: research and development

2016 - **NVIDIA Academic Hardware Grant (to support micro HPC, high performance computed fusion systems in medical image processing research)**

- research
- development

Type of activity or sector: research and development

2015 - **Junior researcher - SCOPIA: Development of software supported clinical devices based on endoscope technology**

University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai út 26.

- research
 - development

Type of activity or sector research and development

- 2014 - **Assistant lecturer**
 University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai út 26.

 - Higher education
 - research
 - development

Type of activity or sector higher education, research and development

- 2015 June - August **Doctor candidate researcher – PRACE Summer of HPC 2015 Program, Barcelona Super Computing Center (Barcelona, Spain), IT4I National Supercomputing Center, Ostrava, Czech Republic**
 Supervisor: Dr Lubomir Riha.

 - intensive HPC course
 - research: 3D CT segmentation and photorealistic visualization

Type of activity or sector research and development

- 2015 Június **Doctor candidate researcher – Campus Hungary Program, Barcelona Super Computing Center, Barcelona**
 supervisor: Dr Vassil Alexandrov.

 - intensive CUDA course
 - research: Massive Parallelization using Markov chains, Extreme Computing Group, Barcelona Supercomputing

Type of activity or sector research and development

- 2014 - 2015 **„Ányos Jedlik” Doctor candidate scholarship of the National Excellence Program**
 University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai út 26.

 - research

Type of activity or sector research and development

- 2013 - 2014 **„János Csere Apáczai” Ph.D. scholarship of the National Excellence Program**
 University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai út 26.

 - research

Type of activity or sector research and development

- 2013 - 2015 **Jung researcher - Telecommunications and Information Technology Center (ETIK)**
 4028, Debrecen, Kassai út 26

 - research

Type of activity or sector research and development

- 2013 - **Doctor candidate**
 PhD School of Informatics, University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai str. 26.

 - Higher education
 - research
 - development
 - joining to several projects

Type of activity or sector research and development, PhD program

- 2013 **PhD researcher - OTKA, NK101680, Mathematical modelling of clinical observations for improved melanoma detection**

 - research
 - development

Type of activity or sector research and development

- 2012 – 2013 **PhD researcher, student instructor - HURO/1001/283/2.3.1, Cross border academic development of an image-based recommendation system for regional educational purposes**
- research
 - development
- Type of activity or sector** research and development
- 2010 - 2013 **PhD researcher**
- PhD School of Informatics, University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai út 26.
- education
 - research
 - development
 - joining several research projects
- Type of activity or sector** PhD program
- 2009 - 2011 **PhD researcher**
- 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
- research
 - development
- Type of activity or sector** PhD program

EDUCATION

- 2010 -2018 **PhD program (PhD student and doctor candidate)**
- PhD School of Informatics, University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai str. 26.
- 2012 - 2014 **English – Hungarian special translator**
- University of Debrecen, 4031, Debrecen, Egyetem sgr. 1
- 2008 - 2011 **Online certificates**
- 2019 Nvidia Deep Learning Institute Certified Instructor and Ambassador (Nvidia, USA)
 - 2018 Deep Learning Specialization online course, (Deeplearning.ai, Coursera, USA)
 - 2011 Machine Learning online course, Stanford University
 - 2010 Hungarian Intellectual Property Protection online course, Hungarian Intellectual Property Office, Debrecen, Hungary
 - 2009 Large-scale data warehousing and BI systems administration and development online course, Oracle University, Hungary.
 - 2009 Fusion Middleware Development online course, Oracle University, Hungary.
 - 2009 Summer School on Image Processing (SSIP), University of Debrecen, Debrecen, Hungary.
 - 2008 Oracle Database Options online course, Oracle University, Debrecen, Hungary.
- 2003 - 2010 **Informatic Science (Msc)**
- University of Debrecen, Faculty of Informatics, 4028, Debrecen, Kassai str. 26.

SZEMÉLYES KÉSZSÉGEK

Mother Tongue Hungarian

OTHERLANGUAGES

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken productino	
ENGLISH	C1	C1	B2	B2	C1
GERMAN	A2	A2	A2	A2	A2

ADDITIONAL INFORMATIONS

Publications
Presentations
Research projects
Grants and honors
Memberships

Projects

- 2019-2021. GINOP-2.2.1-18-2018-00012 - Rákos sejtek automatizált felismerése citológiai kenetekben, szerepkör: kutató-fejlesztő
- 2018 – 2019 GINOP-2.1.7-15-2016-01641, FUNDUSDOMUS: Automatic recognition and characterization of diseases by cellular analysis of cellular fundus images, szerepkör: kutató-fejlesztő .
- 2017-2020. EFOP-3.6.2.-16-2017-00015 - „A HU-MATHS-IN – Magyar Ipari és Innovációs Matematikai Szolgáltatási Hálózat tevékenységének elmélyítése”, szerepkör: kutató-fejlesztő
- 2017- GINOP-2.2.1-15-2017-00055: „Implantátumok osteoszintézisének kutatása és trabekuláris szerkezetének kifejlesztése additive manufacturing alkalmazásával”, szerepkör: kutató-fejlesztő
- 2015-2018. VKSZ_14-1-2015-0072, SCOPIA: Endoszkópos diagnosztikán alapuló, szoftverrel támogatott klinikai eszközök fejlesztése, fiatal kutató
- 2015 PRACE - 3D CT segmentation and photorealistic visualization at IT4Innovations national supercomputing center, VŠB - Technical University of Ostrava (TUO), Ostrava, Czech, (two months), szerepkör: doktorjelölt kutató
- 2015 Massive Parallelization using Markov chains, Extreme Computing Group, Barcelona Supercomputing Center, Barcelona, Spain, (one month), szerepkör: doktorjelölt kutató.
- 2015. TAMOP-4.2.2.C-11/1/KONV-2012-0001, FIRST: Future Internet Research and Technology Services, fiatal kutató
- 2013. OTKA, NK101680, Mathematical modelling of clinical observations for improved melanoma detection, PhD kutató
- 2012-2013. HURO/1001/283/2.3.1, Cross border academic development of an image-based recommendation system for regional educational purposes, PhD kutató, témavezető
- 2009-2011. TECH08-2 grant of Hungarian National Office for Research and Technology, DRSCREEN - Developing a computer-based image processing system for diabetic retinopathy screening, résztvevő, PhD kutató

Journal papers:

- On Equal Values of Stirling Numbers, Revisited, Judit Ferenczik, László Kovács, And Ákos Pintér, under sending. (2015)
- A. Hajdu, L. Hajdu, A. Jonas, L. Kovacs, and H. Toman: Generalizing the majority voting scheme to spatially constrained voting, IEEE Transactions on Image Processing, Volume: PP, Issue: 99, DOI: 10.1109/TIP.2013.2271116, 2013. IF: 3.042
- R. J. Qureshi, L. Kovacs, B. Harangi, B. Nagy, T. Peto, A. Hajdu: Combining algorithms for automatic detection of optic disc and macula in fundus images, Computer Vision and Image Understanding (CVIU) 116, (2012), 138–145, IF=2.404, 5IF= 2.730.

Conference issues:

- Harangi, Balazs ; Toth, Janos ; Bogacsovics, Gergo ; Kupas, David ; Kovacs, Laszlo ; Hajdu, Andras: Cell detection on digitized Pap smear images using ensemble of conventional image processing and deep learning techniques In: 2019 11th International Symposium on Image and Signal Processing and Analysis (ISPA) (2019) pp. 38-42. , 5 p, 2019.
- Laszlo Kovacs, Andras Dr. Hajdu: Hybrid Small Size hpc Resource – HuSSaR, GPU Day 2017 - The Future of Many-Core Computing in Science, Budapest, Hungary, 2017
- Laszlo Kovacs, Strakos Petr, and Lubomir Riha: Post processing and 3D visualisation for medical images, 11th conference of the Hungarian Association for Image Processing and Pattern Recognition (KÉPAF), Sovata, Romania, 2017
- András Hajdu, Henrietta Tomán, László Kovács, Lajos Hajdu: Composing ensembles by a stochastic approach under execution time constraint, 11th conference of the Hungarian Association for Image Processing and Pattern Recognition (KÉPAF), Sovata, Romania, 2017

- L. Kovacs: Applications of the High Performance Computing in Medical Imaging and Visualization, The seventh International HPC summer school on HPC Challenges in Computer Sciences (IHPCSS), Ljubljana, Slovenia, 2016.
- Laszlo Kovacs, HPC GPU/CPU társkártákkal támogatott fotorealistikus 3D CT vizualizáció, Eight Hungarian Conference on Computer Graphics and Geometry, Budapest, 2016.
- L. Kovacs: Photorealistic 3D CT visualization supported by HPC GPU and CPU coprocessors, GPU Day 2016 The Future Of Many-Core Computing In Science, Budapest, Hungary, 2016.
- Stirling számok vizsgálata HPC környezetben, Kovács László, Pintér Ákos, Tavasz Szél Konferencia 2015, Doktoranduszok Országos Szövetsége, accepted. (2015)
- Janos Toth, Laszlo Kovacs, Balazs Harangi, Csaba Kiss, Andras Mohacsi, Zoltan Orosz, Andras Hajdu: An Online Benchmark System for Image Processing Algorithms, 5th IEEE International Conference on Cognitive Infocommunications (CogInfoCom 2014), Vietri sul Mare, Italy, 2014, 5th IEEE International Conference on COGNITIVE INFOCOMMUNICATIONS, 2014. pp. 377-382. (2014)
- A. Hajdu, L. Hajdu, L. Kovacs, H. Toman: Diversity measures for majority voting in the spatial domain, 8th International Conference on Hybrid Artificial Intelligence Systems (HAIS 2013), Salamanca, Spain, 2013, Lecture Notes in Computer Science 8073: pp. 314-323. (2013)
- H. Toman, L. Kovacs, A. Jonas, L. Hajdu, A. Hajdu: Generalized weighted majority voting with an application to algorithms having spatial output, 7th International Conference on Hybrid Artificial Intelligence Systems (HAIS 2012), Salamanca, Spain, 2012, Volume Part II, Lecture Notes in Computer Science 7209: pp. 56-67. (2012)
- H. Toman, L. Kovacs, A. Jonas, L. Hajdu, A. Hajdu: A generalization of majority voting scheme for medical image detectors, 6th International Conference on Hybrid Artificial Intelligence Systems (HAIS), Wroclaw, Poland, in Lecture Notes in Artificial Intelligence 6679/2: pp.189-196. (2011)
- L. Kovacs, B. Harangi, B. Nagy, R.J. Qureshi, A. Hajdu: Gráf-alapú vakfolt és sárgafolt detektálás retinaképeken, Képfeldolgozók és Alakfelismerők Országos Konferenciája (KÉPAF), Szeged, Hungary, 2011, 329-341.
- L. Kovacs, R. J. Qureshi, B. Nagy, B. Harangi, A. Hajdu: Graph based detection of optic disc and fovea in retinal images, 4th IEEE International Workshop on Soft Computing Applications (SOFA), Arad, Romania, 2010, 143-148.
- Rashid Jalal Qureshi, Laszlo Kovacs, Brigitta Nagy, Balazs Harangi, Andras Hajdu: Automatic detection of the fovea and optic disk in digital retinal images by combining algorithms, 8th International Conference on Applied Informatics (ICAI), Eger, Hungary, January 27–30, 2010. Vol. 1. pp. 175–184.

Posters:

- Laszlo Kovacs, Strakos Petr, and Lubomir Riha: Post processing and 3D visualisation for medical images, *11th conference of the Hungarian Association for Image Processing and Pattern Recognition (KÉPAF)*, Sovata, Romania, 2017
- András Hajdu, Henrietta Tomán, László Kovács, Lajos Hajdu: Composing ensembles by a stochastic approach under execution time constraint, *11th conference of the Hungarian Association for Image Processing and Pattern Recognition (KÉPAF)*, Sovata, Romania, 2017
- L. Kovacs: Applications of the High Performance Computing in Medical Imaging and Visualization, *The seventh International HPC summer school on HPC Challenges in Computer Sciences (IHPCSS)*, Ljubljana, Slovenia, 2016
- Laszlo Kovacs, Lajos Hajdu: High Performance Computing With Mathematical Applications, 1st Winter School of PhD Students in Informatics and Mathematics, University of Pannonia, Veszprém, Hungary, 2013. (Best poster award, 3rd place.)

Referring:

- ISPA 2015, 9th International Symposium on Image and Signal Processing and Analysis, 2015
- CogInfoCom 2013, 4rd IEEE International Conference on Cognitive Infocommunications, Budapest, Magyarország, 2013
- MeMeA 2012, 7th IEEE International Symposium on Medical Measurements and Applications, Budapest, Magyarország, 2012

Abstracts:

- Stirling számok vizsgálata HPC környezetben, Kovács László, Pintér Ákos, Tavasz Szél Konferencia 2015, Doktoranduszok Országos Szövetsége, accepted. (2015)
- Janos Toth, Laszlo Kovacs, Balazs Harangi, Csaba Kiss, Andras Mohacsi, Zoltan Orosz, Andras Hajdu: An Online Benchmark System for Image Processing Algorithms, 5th IEEE International Conference on Cognitive Infocommunications (CogInfoCom 2014), Vietri sul Mare, Italy, 2014, 5th IEEE International Conference on COGNITIVE INFOCOMMUNICATIONS, 2014. pp. 377-382. (2014)

Technical Report:

- R. J. Qureshi, t. Peto, L. Kovács, B. Nagy, B. Harangi, A. Hajdu: Detection of the optic disc and the macula through combining algorithms, University of Debrecen, Faculty of Informatics, Preprints No. 380 (Technical Reports No. 7/2010.)

Others:

- 3D Visualisation from CT, Summer of High Performance Computing program (SoHPC) Medical image segmentation and visualization Project, BSC – Barcelona, IT4I National Supercomputing Center – Ostrava, PRACE accepted (2015)
- XXX. Jubileumi OTDK Informatika Tudományi Szekció, Látógödör automatikus detektálása digitális retina képeken algoritmusok kombinálásával, Budapest, Magyarország, 2011, 87.

Grants and honors :

- to support Smart PWM controller research, Nemzet Fiatal Tehetségeiért Ösztöndíj (NTP-NFTÖ-18) Nemzeti Tehetség Program, Magyarország, 2018
- hibrid microHPC fejlesztése, Nemzet Fiatal Tehetségeiért Ösztöndíj (NTP-NFTÖ-16) Nemzeti Tehetség Program, Magyarország

- (hybrid microHPC fejlesztésének, és hibrid nagy számításteljesítményű kutatás támogatására) 2016
- NVIDIA Academic Hardware díj (hybrid microHPC fejlesztésének, és hibrid nagy számításteljesítményű kutatás támogatására) 2016
 - The seventh International HPC summer school on HPC Challenges in Computer Sciences (IHPCSS 2016) díj, 2016
 - Doktorjelölti Ösztöndíj, University of Debrecen (TÁMOP-4.2.2B-15/1/KONV-2015-0001), 2015
 - PRACE Summer of HPC 2015 Program doktorjelölti ösztöndíj, Barcelona, Spanyolország - Csehország, Ostrava 2015
 - Campus Hungary Program rövid tanulmányút ösztöndíj BSC, Barcelona, Spanyolország, 2015
 - „Ányos Jedlik” Doktorjelölti Ösztöndíj, Nemzeti Kiválóság Program, 2014 - 2015.
 - University of Debrecen, év publikációs díj 2014: A. Hajdu, L. Hajdu, A. Jonas, L. Kovacs, and H. Toman: Generalizing the majority voting scheme to spatially constrained voting.
 - Best poster award, 3rd place: High Performance Computing with Mathematical Applications, Winter School of PhD Students in Informatics and Mathematics (WSPS 2013).
 - „János Csere Apáczai” PhD Ösztöndíj, Nemzeti Kiválóság Program, 2013 – 2014.
 - OTKA, NK101680, Mathematical modelling of clinical observations for improved melanoma detection, szerepkör: PhD kutató, 2013.
 - HURO/1001/283/2.3.1, Cross border academic development of an image-based recommendation system for regional educational purposes, szerepkör: PhD vezető kutató, 2012 – 2013.
 - „Universitas” ösztöndíj, University of Debrecen, Debrecen, Hungary, 2012.
 - 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, szerepkör: PhD kutató, 2009 – 2011.
 - XXX. OTDK Különdíj (Látógödör automatikus detektálása digitális retina képeken algoritmusok kombinálásával - Budapest, 2011)
 - Debreceni Egyetem, Faculty of Informatics Dékánjának Dícsérete (Debrecen, 2010)

Memberships:

IEEE, KÉPAF, NJSZT, IPDG