

## OSNOVNE INFORMACIJE

**Amila Akagić**


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Gender Female | Nacionalnost Bosna i Hercegovina

VISOKOŠKOLSKO  
OBRAZOVANJE

2010–2013

**Doktor tehničkih nauka**

Keio University, Graduate School of Science and Technology, Tokyo, Japan

2009

**Magistar elektrotehničkih nauka**

Odsjek za računarstvo i informatiku, Elektrotehnički fakultet, Univerzitet u Sarajevu

2006

**Diplomirani inženjer elektrotehnike**

Odsjek za računarstvo i informatiku, Elektrotehnički fakultet, Univerzitet u Sarajevu

## RADNO ISKUSTVO

Januar 2020 – trenutno

**Vandredna profesorica**

Odsjek za računarstvo i informatiku, Elektrotehnički fakultet, Univerzitet u Sarajevu

Kursevi sa aktivnim učestvovanjem u toku izbora:

- (1) Digitalno procesiranje signala (RI),
- (2) Vještačka inteligencija (RI),
- (3) Projektovanje i sinteza digitalnih sistema (RI),
- (4) Dizajn i arhitektura softverskih sistema (RI),
- (5) Metode i primjena vještačke inteligencije (RI),
- (6) Hardver/softver kodizajn (RI).

April 2014 – Decembar 2019

**Docentica**

Odsjek za računarstvo i informatiku, Elektrotehnički fakultet, Univerzitet u Sarajevu

Kursevi sa aktivnim učestvovanjem u toku izbora:

- (1) Napredna poglavlja iz procesiranja signala (TK),
- (2) Digitalno procesiranje signala (RI),
- (3) Projektovanje i sinteza digitalnih sistema (RI),
- (4) Dizajn i arhitektura softverskih sistema (RI),
- (5) Inženjering i tehnologije sistema upravljanja (RI) i
- (6) Računarska pismenost (RS).

- Septembar 2010 – Mart 2013 **Research Assistant**  
Keio University, Graduate School of Science and Technology, Tokyo, Japan  
*Research Assistant u Global Centre of Excellence (GCOE) u okviru projekta "High-Level Global Cooperation for Leading-Edge Platform on Access Spaces."*
- September 2007 – June 2008 **Jr. Research Assistant**  
University of California, Riverside, USA  
*Research Assistant u laboratoriju za računarske arhitekture i ugrađene sisteme*
- December 2006 – March 2014 **Viši asistent i asistent**  
Odsjek za računarstvo i informatiku, Elektrotehnički fakultet, Univerzitet u Sarajevu  
Aktivno učesće u izvođenju vježbi na predmetima: Logički dizajn, Računarske arhitekture, Paralelni računarski sistemi, Sistemi na čipu, Sistemi za podršku odlučivanju i dr.

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**PROJEKTI**

- 2021 – 2022 **Edukativni i training simulator u realnom vremenu za Smart Grid mreže**  
Partner: Ministarstvo za nauku, visoko obrazovanje i mlade, Kanton Sarajevo
- 2021 – 2022 **Višedomenski mobilni sistem za 3D mapiranje i inspekciju kulturnog nasljeđa (3DVMS)**  
Partner: Ministarstvo za nauku, visoko obrazovanje i mlade, Kanton Sarajevo
- 2021 – 2022 **Detekcija horizontalnih saobraćajnih znakova primjenom AI metoda u cilju poboljšanja autonomne vožnje**  
Partner: UNDP, Economic Governance for Growth – EGG Project
- 2018 – 2019 **Napredni rekonfigurabilni sistem za snimanje i detekciju infrastrukturnih oštećenja baziran na sistemu-na-čipu i dronu**  
Partner: Ministarstvo za nauku, visoko obrazovanje i mlade, Kanton Sarajevo
- 2017 – 2018 **Napredni mobilni sistem za analizu i segmentaciju slike i video sadržaja**  
Partner: Ministarstvo za nauku, visoko obrazovanje i mlade, Kanton Sarajevo
- 2010 – 2013 **High-Level Global Cooperation for Leading-Edge Platform on Access Spaces**  
Research Assistant  
Keio University, Graduate School of Science and Technology, Tokyo (Japan)

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**SPISAK MENTORSTVA (II CIKLUS STUDIJA)**

1. "Audio transkripcija snimaka električne gitare korištenjem FPGA ploče", kandidatkinja Ajla Ždralović, odbranila završni rad 2015. godine.
2. "Analiza rada i projektovanje komponenti OFDM tehnike na FPGA", kandidat Hadžiahmetović Adnan, odbranio završni rad 2015. godine.
3. "Projektovanje i razvoj sistema na čipu za rješavanje Rubikove kocke", kandidat Baručija Emir, odbranio završni rad 2019. godine.
4. "Primjena generativnih protivničkih mreža za generisanje tematskih crteža", kandidat Šehić Emin, odbranio završni rad 2020. godine.

5. "Interpretacija znakovnog jezika u realnom vremenu korištenjem YOLO metode kroz interaktivni korisnički interfejs", kandidat Bajramović Maid, odbranio završni rad 2020. godine.
6. "Analiza i primjena metoda dubokog učenja za rješavanje problema prostornog aliasinga", kandidat Teskeredžić Edvin, odbranio završni rad 2021. godine.
7. "Projektovanje i implementacija sistema za automatsko prepoznavanje šumskih požara", kandidat Džigal Džemil, odbranio završni rad 2021. godine.

## INTERNACIONALNA SARADNJA

- 2014 – 2018 Network for Sustainable Ultrascale Computing (NESUS), Management Committee, <http://www.nesus.eu/>
- 2014 – 2018 Cryptanalysis of ubiquitous computing systems (CRYPTACUS), Management Committee, <https://www.cryptacus.eu/en/>
- 2014 – 2018 Memristors - Devices, Models, Circuits, Systems and Applications (MemoCiS), Management Committee, [http://www.ece.ucy.ac.cy/labs/holistic\\_elab/COST\\_IC\\_1401/index.htm](http://www.ece.ucy.ac.cy/labs/holistic_elab/COST_IC_1401/index.htm)

## OSTALE AKTIVNOSTI

1. Reviewer za nekoliko časopisa, poput "IEEE Transactions on Circuits and Systems", "IEEE Access", "Mathematics", "Journal of Imaging", "Remote Sensing", "Applied Sciences", "Automation in construction", "International Journal of Wildland Fire", i dr.
2. Član tehničkog komiteta za "Sustainable Computing Systems Workshop (SUSCW)" od 2019 - danas u sklopu CANDAR konferencije koja se održava u Japanu.

## POZNAVANJE JEZIKA

Maternji jezik Bosanski

Drugi jezici

	RAZUMIJEVANJE		GOVOR		PISANJE
	Slušanje	Čitanje	Govorna interakcija	Govorna produkcija	
Engleski	C2	C2	C2	C2	C2
Njemački	A2	A2	A2	A2	A2
Japanski	A2	A2	A2	A2	A2

Nivoi: A1 i A2: Početni korisnik – B1 i B2: Nezavistan korisnik– C1 i C2: Iskusan korisnik  
[Zajednički evropski referentni okvir za jezike](#)

## PRIZNANJA I NAGRADE

1. Fulbright stipendija, boravak od 9 mjeseci na Univerzitetu u Kaliforniji i Riverside-u, Odsjek za Računarske nauke i inženjerstvo (Department of Computer Science and Engineering, University of California, Riverside) u periodu od sept 2007- juni 2008.
2. MEXT stipendija (Ministry of Education, Culture, Sports, Science, and Technology, Japan), Graduate School of Science and Technology, Keio University, Tokyo, Japan, 2010-2013.
3. Keio Leading Edge Laboratory Research Grant Award, Graduate School of Science and Technology, Keio University, Tokyo, Japan, 2011-2013.

Organisational / managerial skills

- Osnivač i prva predsjednica "Udruženja Linux Korisnika" FBiH (od 1999-2005). Udruženje je bilo veoma aktivno i organizovalo je niz druženja i edukativnih seminara u navedenom periodu.
- Aktivna članica IEEE i ACM organizacija.
- 2020 i 2021 bila sam Women in Data Science (WiDS) Ambasadorica (<https://www.widsconference.org/>). Organizovala sam dvije konferencije "Women in Data Science Sarajevo @ University of Sarajevo", 2020 i 2021. Više informacija i program možete naći na <http://wids.etf.unsa.ba>.

## PUBLIKACIJE

- [1] Amila Akagic and Hideharu Amano. "An FPGA implementation of CRC slicing-by-N algorithms". In: *RECONF: IEICE technical report* 110.319 (2010), pp. 19–24.
- [2] Amila Akagic and Hideharu Amano. "Performance analysis of fully-adaptable CRC accelerators on an FPGA". In: *22nd International Conference on Field Programmable Logic and Applications (FPL)*. IEEE. 2012, pp. 575–578.
- [3] Amila Akagic and Hideharu Amano. "A study of adaptable co-processors for cyclic redundancy check on an FPGA". In: *2012 International Conference on Field-Programmable Technology*. IEEE. 2012, pp. 119–124.
- [4] Amila Akagic and Hideharu Amano. "Design and Implementation of IP-based iSCSI Offload Engine on an FPGA". In: *IPSI Transactions on System LSI Design Methodology* 6 (2013), pp. 112–121.
- [5] Amila Akagic and Hideharu Amano. "High-speed fully-adaptable CRC accelerators". In: *IEICE TRANSACTIONS on Information and Systems* 96.6 (2013), pp. 1299–1308.
- [6] Amila Akagic and Hideharu Amano. "Multiple Table Lookup Implementation of Error Correction on an FPGA". In: ().
- [7] Amila Akagic. "Adaptable architectures for acceleration of protocol processing using FPGAs". PhD thesis. 2013.
- [8] Amila Akagić and Hideharu Amano. "Performance evaluation of multiple lookup tables algorithms for generating CRC on an FPGA". In: *2011 1st International Symposium on Access Spaces (ISAS)*. IEEE. 2011, pp. 164–169.
- [9] Amila Akagić and Hideharu Amano. "High Speed CRC with 64-bit generator polynomial on an FPGA". In: *ACM SIGARCH Computer Architecture News* 39.4 (2011), pp. 72–77.
- [10] Marijana Ćosović, Amila Akagić, and Zdenka Babić. "UPOREDNA ENERGETSKA ANALIZA FPGA REALIZACIJA MODULARNIH MNOŽAČA PERFORMANCE ANALYSIS OF MODULAR MULTIPLIERS IMPLEMENTATIONS ON FPGA". In: ().
- [11] Amila Akagic, Emir Buza, and Samir Omanovic. "Pothole detection: An efficient vision based method using rgb color space image segmentation". In: *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*. IEEE. 2017, pp. 1104–1109.
- [12] Haris Hasic, Emir Buza, and Amila Akagic. "A hybrid method for prediction of protein secondary structure based on multiple artificial neural networks". In: *2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*. IEEE. 2017, pp. 1195–1200.
- [13] Emir Buza, Amila Akagic, and Samir Omanovic. "Skin detection based on image color segmentation with histogram and k-means clustering". In: *2017 10th International Conference on Electrical and Electronics Engineering (ELECO)*. IEEE. 2017, pp. 1181–1186.
- [14] Emir Buza, Amila Akagic, Samir Omanovic, and Haris Hasic. "Unsupervised method for detection of high severity distresses on asphalt pavements". In: *2017 IEEE 14th International Scientific Conference on Informatics*. IEEE. 2017, pp. 45–50.
- [15] Amila Akagic, Emir Buza, Samir Omanovic, and Almir Karabegovic. "Pavement crack detection using otsu thresholding for image segmentation". In: *2018 41st International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)*. IEEE. 2018, pp. 1092–1097.
- [16] Amila Akagic, Emir Buza, Razija Turcinhodzic, Hana Haseljic, Noda Hiroyuki, and Hideharu Amano. "Superpixel accelerator for computer vision applications on arria 10 soc". In: *2018 IEEE 21st International Symposium on Design and Diagnostics of Electronic Circuits & Systems (DDECS)*. IEEE. 2018, pp. 55–60.
- [17] Hana Haseljic, Emir Cogo, Irfan Prazina, Razija Turcinhodzic, Emir Buza, and Amila Akagic. "OpenCL Superpixel Implementation on a General Purpose Multi-core CPU". In: *2018 IEEE International Conference on Imaging Systems and Techniques (IST)*. IEEE. 2018, pp. 1–6.

- [18] Amila Akagic and Hideharu AMANO. "An FPGA implementation of CRC slicing-by-N algorithms". In: ().
- [19] E. Buza, A. Akagic, and I. Besic. "Image-Based Crack Detection Using Sub-image Technique". In: *2019 11th International Conference on Electrical and Electronics Engineering (ELECO)*. 2019, pp. 614–618.
- [20] D. Dzigal, A. Akagic, E. Buza, A. Brdjanin, and N. Dardagan. "Forest Fire Detection based on Color Spaces Combination". In: *2019 11th International Conference on Electrical and Electronics Engineering (ELECO)*. 2019, pp. 595–599.
- [21] Edvin Teskeredzic and Amila Akagic. "Low cost UGV platform for autonomous 2D navigation and map-building based on a single sensory input". In: *2020 7th International Conference on Control, Decision and Information Technologies (CoDIT)*. Vol. 1. IEEE. 2020, pp. 988–993.
- [22] Adnan Brdjanin, Nadja Dardagan, Dzemil Dzigal, and Amila Akagic. "Single Object Trackers in OpenCV: A Benchmark". In: *2020 International Conference on INnovations in Intelligent Systems and Applications (INISTA)*. IEEE. 2020, pp. 1–6.
- [23] Emir Barucija, Amila Akagic, Samir Ribic, and Zeljko Juric. "Two approaches in solving Rubik's cube with Hardware-Software Co-design". In: *2020 43rd International Convention on Information, Communication and Electronic Technology (MIPRO)*. IEEE, pp. 128–133.
- [24] Nada Dardagan, Adnan Brđanin, Džemil Džigal, and Amila Akagic. "Multiple Object Trackers in OpenCV: A Benchmark". In: *2021 IEEE 30th International Symposium on Industrial Electronics (ISIE)*. IEEE. 2021, pp. 1–6.
- [25] Amila Akagic and Emir Buza. "LW-FIRE: A Lightweight Wildfire Image Classification with a Deep Convolutional Neural Network". In: *Applied Sciences* 12.5 (2022), p. 2646.
- [26] Emir Buza and Amila Akagic. "Unsupervised Method for Wildfire Flame Segmentation and Detection". In: *IEEE Access* (2022).
- [27] Emir Turajlic, Emir Buza, and Amila Akagic. "Multilevel image thresholding based on Rao algorithms and Kapur's Entropy". In: *2022 XXVIII International Conference on Information, Communication and Automation Technologies (ICAT)*. IEEE. 2022, pp. 1–7.
- [28] Amila Akagic, Senka Krivić, Harun Dizdar, and Jasmin Velagić. "Computer Vision with 3D Point Cloud Data: Methods, Datasets and Challenges". In: *2022 XXVIII International Conference on Information, Communication and Automation Technologies (ICAT)*. IEEE. 2022, pp. 1–8.
- [29] Amila Akagic and Izudin Džafić. "Deep Reinforcement Learning in Smart Grid: Progress and Prospects". In: *2022 XXVIII International Conference on Information, Communication and Automation Technologies (ICAT)*. IEEE. 2022, pp. 1–6.
- [30] Dinko Osmankovic, Amila Akagic, Senka Krivic, Tarik Uzunovic, and Jasmin Velagic. "Towards Safe and Explainable Humanitarian Demining with Deep Learning". In: *18th International Symposium Mine Action 2022*. HCR-CTRO. 2022, pp. 1–7.