

Nemanja Maček

Professor of information technologies, with a special focus on information security, biometrics, cryptology, applied machine learning, pattern recognition and natural language processing.



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CURRICULUM VITAE

(updated January 2023; certain data intentionally removed from resume)

Education

Doctoral academic studies

Faculty of Informatics and Computing, Singidunum University, Belgrade, Serbia.

Doctoral thesis "One Class of Adaptive Network Intrusion Detection Systems", December 2013, supervised by professor Milan Milosavljević, PhD.

Study programme: Advanced Information Security Systems. The field of natural sciences and mathematics, the discipline: Informatics and Computing.

GPA: 10/10.

Award for the best PhD researcher's paper in Artificial Intelligence section (the 57th ETRAN conference).

Master academic studies

Technical Faculty, University of Novi Sad, Serbia.

MSc in Information Technologies, May 2006.

Undergraduate applied studies

School of Electrical and Computer Engineering of Applied Studies, Belgrade, Serbia.

BSc in Computer Technologies, May 2003.

Professional experience

SECIT Security Consulting, Pančevo, Belgrade, Serbia.

Information security consultant (June 2015 – present).

Information security consulting (NDA covered).

Vulnerability analysis (NDA covered).

Education (partially NDA covered).

INPRESEC: INtelligent PREdictive SEcurity project (NDA covered), Serbia / UK.

Applied machine learning research associate (August 2014 – September 2016).

Dataset generation, feature engineering, statistically based supervised learning algorithms implementation.

Golden Mind Ltd. (NDA covered), Belgrade, Serbia.

Biometrics research and development associate (January 2016 – May 2016).

Feature extraction, developing matching and cancelable templates algorithms for the patented biometric device 1412 U1 (classification G06F21/00).

School of Electrical and Computer Engineering of Applied Studies, Belgrade, Serbia.

Network and system administrator (2003 – 2006).

Academic career (including lectures by invitation and informal courses)

School of Electrical and Computer Engineering of Applied Studies (VISER), Belgrade, Serbia.

Senior lectured of applied studies (September 2021 – present).

Lecturer of applied studies (September 2016 – September 2021).

Courses (master applied studies):

- Software security systems design (winter terms 2017/18 – 2018/19),
- Machine learning (summer terms 2018, 2019; winter terms 2019/20 – 2022/23).

Courses (specialist applied studies):

- Ethical hacking (winter term 2017/18),
- Applied cryptography (summer term 2017),
- Mobile device application development (winter term 2016/17),
- Software security (winter term 2016/17).

Courses (undergraduate applied studies):

- Information systems security (winter terms 2017/18 – 2022/23),
- Information systems safety and protection (winter terms 2019/20 – 2022/23),
- Introduction to cloud computing (winter terms 2017/18 – 2022/23),
- Computer networks security (summer terms 2017 – 2022),
- Operating systems 1 (summer terms 2017 – 2022),
- Mobile device programming (summer term 2021).

Teaching assistant (October 2009. – September 2016).

Courses (hands-on labs): information system security, data protection, computer network security, applied cryptography, operating systems 1 & 2.

Faculty of Social Sciences, University Business Academy in Novi Sad (FDN), Belgrade, Serbia.

Full professor (elected in May 11, 2022).

Faculty of Computer Sciences, Megatrend University (FKN), Belgrade, Serbia.

Full professor (September 2019 – July 2022).

Vice Dean (July 2019 – July 2020).

Assistant professor (May 2018 – September 2019).

Courses (doctoral academic studies):

- Human-machine interaction (in English, winter terms 2018/19 – 2019/20),
- Intelligent systems (summer terms 2019 – 2021).

Courses (master academic studies):

- Advanced network security (summer term 2019 – 2022).

Courses (undergraduate academic studies):

- Operating systems theory (winter terms 2018/19 – 2021/22),
- Introduction to computer systems (winter terms 2018/19 – 2021/22),
- Computer systems and network security (summer terms 2018 – 2022),
- Social and professional issues (summer term 2019),
- Advanced computer applications (summer terms 2020 – 2022).

Lecturer by invitation (2011).

Invited lectures on operating systems.

Faculty of Engineering Management, Union University – Nikola Tesla (FIM), Belgrade, Serbia.

Assistant professor (September 2016 – July 2017).

Courses (undergraduate academic studies):

- Information systems analysis and design (in English, summer term 2016/17),
- Programming (summer term 2017).

Faculty of Information Technology, Metropolitan University (FIT), Belgrade, Serbia.

Lecturer by invitation.

Invited lectures on information security (February 2016 – October 2018).

Eccentrix d.o.o, Serbian Branch, Belgrade, Serbia.

Lecturer (June 2015 – April 2016).

Customized information security lectures and official Microsoft exam preparation courses.

Business School of Applied Studies. Valjevo, Serbia

Lecturer by invitation (2006 – 2008).

Invited lectures on computer networks.

Thesis supervision

Summary data.

- Doctoral academic studies: 3 candidates (supervisor, FKN), 1 candidate (chairman of the committee, FKN), 1 candidate (committee member, FKN).
- Master of academic studies: 12 candidates (supervisor, FKN), 4 candidates (committee member, FKN).
- Undergraduate academic studies: over 40 candidates (supervisor, FKN), over 20 candidates (committee member, FKN).
- Master applied studies: 14 candidates (supervisor, VISER).
- Specialist applied studies: 6 candidates (supervisor, VISER), 12 candidates (committee member, VISER).
- Undergraduate applied studies: over 35 candidates (supervisor, VISER), over 50 candidates (committee member, VISER).

Research interests

Scientific research areas:

- Machine learning, pattern recognition and natural language processing.
- Biometric and crypto-biometric systems: iris, face, fingerprint, multimodal biometrics, cancelable biometrics and cryptographic protection of biometric systems.
- Intrusion detection systems and anomaly detection.
- Cryptography, cryptanalysis, developing novel information security systems and mechanisms.

Practical skills (partial list):

- Resolving practical artificial intelligence problems, e.g., designing intrusion detection classification modules and biometric template extractors and matchers (Python, Weka, Matlab, C++.)
- Computer network and system vulnerability analysis.
- Computer network and system security (firewalls, IDS, crypto, access control, etc).

Publications, technical solutions and summary data

Selected books:

- N. Maček (2015): "Machine Learning in Intrusion Detection". Monograph (in Serbian and English). Andrejević endowment.
- D. Pleskonjić, N. Maček, B. Đorđević, M. Carić (2007): "Computer Systems and Networks Security". Mikro knjiga, Beograd (textbook, in Serbian).
- B. Đorđević, D. Pleskonjić, N. Maček (2005): "Operating Systems: Theory, Practice and Solved Problems". Mikro knjiga, Beograd (textbook, in Serbian).

Book chapters:

- N. Vukobrat, N. Maček, S. Adamović, M. Saračević, M. Gnjatović (2023): "Implementation of two factor authentication using face and iris biometrics". In Solutions for the Security of IoT-Based Healthcare Systems, Elsevier, pp. 77-96. **[M14]**
- N. Vukobrat, S. Adamović, N. Maček, M. Saračević, M. Gnjatović (2021): "Cryptanalysis and Security Evaluation Using Artificial Neural Networks", in Integration of WSNs into Internet of Things: A Security Perspective, Series: Internet of Everything's (IoE): Security and Privacy Paradigm, CRC Press, Taylor & Francis Group, USA, pp. 65-80. **[M14]**

Selected peer-reviewed scientific journal articles:

- M. Gnjatović, N. Maček, M. Saračević, S. Adamović, D. Joksimović, D. Karabašević (2023): "Cognitively Economical Heuristic for Multiple Sequence Alignment under Uncertainties". Axioms 2023, 12(1), 3. **[M22]**
- D. Perić, N. Maček, M. Bogdanoski (2022): "Application of Convolutional Neural Networks to Spoken Words Evaluation Based on Lip Movements Without Accompanying Sound Signal". Journal Computer and Forensic Sciences. Vol. 1, Issue 1, pp. 7-16. **[M54]**
- S. Štrbac-Savić, M. Tomašević, N. Maček, Z. Minchev (2022): "Comparative Performance Analysis of Suboptimal Binary Trees". Journal Computer and Forensic Sciences. Vol. 1, Issue 1, pp. 29-45. **[M54]**
- B. Đorđević, V. Timčenko, N. Maček, M. Bogdanoski (2022): "Performance Modeling of File System Pairs in Hypervisor-Based Virtual Environment Applied on KVM Hypervisor Case Study". Journal Computer and Forensic Sciences. Vol. 1, Issue 1, pp. 55-76. **[M54]**
- M. Gnjatović, I. Košanin, N. Maček, D. Joksimović (2022): "Clustering of Road Traffic Accidents as a Gestalt Problem". Applied Sciences, Vol. 12, No. 9, 4543. Special issue: Applied Cognitive Sciences. **[M22]**
- S. Ilić, M. Gnjatović, B. Popović, N. Maček (2022): "A Pilot Comparative Analysis of the Cuckoo and Drakvuf Sandboxes: an end-user Perspective". Vojnotehnički glasnik / Military Technical Courier. Vol. 70, No. 2, pp. 372-392. **[M52]**
- N. Pavlović, M. Šarac, S. Adamović, M. Saračević, K. Ahmad, N. Maček, D. K. Sharma (2021): "An Approach to Adding Simple Interface as Security Gateway Architecture for IoT Device". Multimedia Tools and Applications. Published online: August 12, 2021. **[M21]**

- S. Barzut, M. Milosavljević, S. Adamović, M. Saračević, N. Maček, M. Gnjatović (2021): "A Novel Fingerprint Biometric Cryptosystem Based on Convolutional Neural Networks". *Mathematics* 2021, 9, 730. Special Issue: Recent Advances in Security, Privacy, and Applied Cryptography. **[M21a]**
- B. Đorđević, V. Timčenko, N. Kraljević, N. Maček (2021): "File System Performance Comparison in Full Hardware Virtualization with ESXi, KVM, Hyper-V and Xen Hypervisors". *Advances in Electrical and Computer Engineering*, Vol. 21, No. 1, pp 11-20. **[M23]**
- M. Saračević, S. Adamović, N. Maček, S. Aybeyan, S. Pepić (2021): "Source and Channel Models for Secret-key Agreement Based on Catalan Numbers and the Lattice Path Combinatorial Approach". *Journal of Information Science and Engineering*, Vol. 37, No. 2, pp. 469 – 482. **[M23]**
- S. Adamović, V. Miškovic, N. Maček, M. Milosavljević, M. Šarac, M. Saračević, M. Gnjatović (2020): "An Efficient Novel Approach for Iris Recognition Based on Stylometric Features and Machine Learning Techniques". *Future Generation Computer Systems*, Vol. 107, pp. 144-157. Available online, February 4, 2020. **[M21a]**
- M. Gnjatović, N. Maček, S. Adamović (2020): "Putting Humans Back in the Loop: A Study in Human-Machine Cooperative Learning". *Acta Polytechnica Hungarica*, Vol. 17, No. 2, pp. 191-210. **[M22]**
- M. Saračević, S. Adamović, N. Maček, M. Elhoseny, S. Sarhan (2020): "Cryptographic Keys Exchange Model for Smart City Applications". *IET Intelligent Transport Systems*, Vol. 14, Issue 11, pp. 1456–1464. **[M22]**
- M. Saračević, S. Adamović, V. Miškovic, M. Elhoseny, N. Maček, M. M. Selim, K. Shankar (2020): "Data Encryption for Internet of Things Applications Based on Catalan Objects and Two Combinatorial Structures". *IEEE Transactions on Reliability*. Published online, August 06, 2020. **[M21]**
- S. Savić, M. Gnjatović, D. Stefanović, B. Lalić, N. Maček (2019): "Automatic Domain Modelling for Human-Robot Interaction". *Intelligent Service Robotics*, Vol. 13, Issue 1, pp. 99-111. First Online: 03 December 2019. **[M23]**
- M. Saračević, S. Adamović, V. Miškovic, N. Maček, M. Šarac (2019): "A Novel Approach to Steganography Based on the Properties of Catalan Numbers and Dyck Words". *Future Generation Computer Systems*, Vol. 100, pp. 186-197. Available online, May 16, 2019. **[M21a]**
- N. Maček, S. Adamović, M. Milosavljević, M. Jovanović, M. Gnjatović, B. Trenkić (2019): "Mobile Banking Authentication Based on Cryptographically Secured Iris Biometrics". *Acta Polytechnica Hungarica*, Vol. 16, No. 1, pp. 45-62. **[M22]**
- G. Dimić, D. Rančić, N. Maček, P. Spalević, V. Drasute (2019): "Improving the Prediction Accuracy in Blended Learning Environment using Synthetic Minority Oversampling Technique". *Information Discovery and Delivery*, Vol. 47, No. 2, pp. 76-83. **[M23]**
- B. Predić, G. Dimić, D. Rančić, P. Štrbac, N. Maček, P. Spalević (2018): "Improving Final Grade Prediction Accuracy in Blended Learning Environment Using Voting Ensembles". *Computer Applications in Engineering Education*, Vol. 6, No. 6, pp. 2294-2306. **[M22]**

- G. Dimić, B. Predić, D. Rančić, V. Petrović, N. Maček, P. Spalević (2018): "Association Analysis of Moodle e-Tests in Blended Learning Educational Environment". *Computer Applications in Engineering Education*, Vol 26, No. 3, pp. 417-430. [M22]
- K. Lalović, N. Maček, M. Milosavljević, M. Veinović, I. Franc, J. Lalović, I. Tot (2016): "Biometric Verification of Maternity and Identity Switch Prevention in Maternity Wards". *Acta Polytechnica Hungarica*, Vol. 13, No. 5, pp. 65-81. [M23]
- N. Maček, B. Đorđević, J. Gavrilović, K. Lalović (2015): "An Approach to Robust Biometric Key Generation System Design". *Acta Polytechnica Hungarica*, Vol. 12, No. 8, pp. 43-60. [M23]
- B. Đorđević, N. Maček, V. Timčenko (2015): "Performance Issues in Cloud Computing: KVM Hypervisor's Cache Modes Evaluation". *Acta Polytechnica Hungarica*, Vol. 12, No. 4, pp. 147-165. [M23]
- K. Lalović, M. Milosavljević, I. Tot, N. Maček (2015): "Device for Biometric Verification of Maternity". *Serbian Journal of Electrical Engineering*, Vol. 12, No. 3, pp. 293-302. [M24]
- S. Abuguba, M. Milosavljević, N. Maček (2015): "An Efficient Approach to Generating Cryptographic Keys from Face and Iris Biometrics Fused at the Feature Level". *International Journal of Computer Science and Network Security*, Vol. 15, No. 6, pp. 6-11. [ESCI]
- N. Maček, B. Đorđević, V. Timčenko, M. Bojović, M. Milosavljević (2014): "Improving Intrusion Detection with Adaptive Support Vector Machines". *Elektronika ir elektrotehnika*, Vol. 20, No. 7, pp. 57-60. [M23]
- N. Maček, M. Milosavljević (2014): "Reducing U2R and R2L Category False Negative Rates with Support Vector Machines". *Serbian Journal of Electrical Engineering*, Vol. 11, No. 1, pp. 175-188. [M24]
- D. Pleskonjic, N. Maček, B. Djordjević, M. Carić (2007): "Security of Computer Systems and Networks Book Preview". *Computer Science and Information Systems (ComSIS) - The international journal published by ComSIS Consortium*, Vol. 4, No. 1, pp. 77-92. [M24]

Selected peer-reviewed scientific conference papers:

- M. Gnjatović, D. Sivčević, N. Maček, D. Joksimović, V. Nikolić, A. Miljković: "Lemmatization as a Cognitive Decision Task: Similarity-Based Lemmatization of Serbian with a Minimal Vocabulary". In *Proc. of the 12th IEEE International Conference on Cognitive Infocommunications (CogInfoCom)*, Online on MaxWhere 3D Web, pp. 49-52. [M33]
- M. Gnjatović, V. Nikolić, D. Joksimović, D. Vidojević, N. Maček, Z. Minchev, M. Bogdanoski (2021): "Yet Another Classification: An Overview of COVID-19-Related Research in the Field of Natural Language Processing". In *Proc. of the First International Scientific Conference Covid-19 and Challenges of the Business World*, Belgrade, pp. 97-106. [M33]
- M. Gnjatović, N. Maček (2020). "An Entropy Minimization Approach to Dialogue Segmentation". In *Proc. of the 11th IEEE International Conference on Cognitive*

Infocommunications (CogInfoCom), September 23-25, 2020, Online on MaxWhere 3D Web, pp. 27-32. [M33]

- M. Gnjatović, V. Nikolić, D. Joksimović, N. Maček, N. Budimirović (2020). "An approach to human activity clustering using inertial measurement data". In Proc. of the Archibald Reiss Days 2020, pp. 547-556. [M33]
- M. Gnjatović, N. Maček, S. Adamović (2019): "A Non-Connectionist Two-Stage Approach to Digit Recognition in the Presence of Noise". In Proc. of the 10th IEEE International Conference on Cognitive Infocommunications (CogInfoCom), Naples, Italy, pp. 15-20. [M33]
- N. Maček, I. Franc, M. Gnjatović, B. Trenkić, M. Bogdanoski, A. Aleksić (2018): "Biometric Cryptosystems – Approaches to Biometric Key-binding and Key-generation". In Proc. of the 10th International Conference on Business Information Security (BISEC 2018), Metropolitan University, Belgrade, October 2018, pp. 16-19. [M34]
- N. Maček, I. Franc, M. Gnjatović, B. Trenkić, Z. Minchev, A. Aleksić (2018): "Security Evaluation of Cancelable Biometrics". In Proc. of the 10th International Conference on Business Information Security (BISEC 2018), Metropolitan University, Belgrade, October 2018, pp. 51-53. [M34]
- N. Maček, I. Franc, M. Gnjatović, B. Trenkić, M. Bogdanoski, A. Aleksić (2018): "Can Support Vectors Detect Exploits?" In Proc. of the 10th International Conference on Business Information Security (BISEC 2018), Metropolitan University, Belgrade, October 2018, pp. 32-25. [M34]
- M. Gnjatović, J. Tasevski, B. Borovac, N. Maček (2018): "An Entropy-Based Approach to Automatic Detection of Critical Changes in Human-Machine Interaction". In Proc. of the 9th IEEE International Conference on Cognitive Infocommunications (CogInfoCom), Budapest, Hungary, pp. 175-178. [M33]
- P. Barca, B. Vujanić, N. Maček (2018): "Monitoring and Predicting Linux Server Performance with Linear Regression". In Sinteza 2018 International Scientific Conference on Information Technology and Data Related Research, Belgrade, Singidunum University, Serbia, 2018, pp. 68-73. [M33]
- N. Maček, M. Milosavljević, I. Franc, M. Bogdanoski, M. Gnjatović, B. Trenkić (2017): "Secure Modular Authentication Systems Based on Conventional XOR Biometrics". In Proc. of the 9th International Conference on Business Information Security (BISEC2017), Metropolitan University, Belgrade, October 18th, 2017, pp. 27-32. [M33]
- N. Maček, M. Milosavljević, I. Franc, Z. Minchev, M. Gnjatović, B. Trenkić (2017): "Secure Mobile Banking Biometric Authentication". In Proc. of the 9th International Conference on Business Information Security (BISEC2017), Metropolitan University, Belgrade, October 18th, 2017, pp. 41-43. [M34]
- M. Gnjatović, N. Maček, Z. Minchev (2017): "Methodological Pitfalls of Automatic Speech Recognition". In Proc. of the 9th International Conference on Business Information Security (BISEC2017), Metropolitan University, Belgrade, October 18th, 2017, pp. 54-57. [M34]

- I. Franc, N. Maček, M. Gnjatović, B. Trenkić, M. Bogdanoski, D. Đokić (2017): "Securing Machine Learning Classifiers with Input Hashing Re-Weight Strategy". In Proc. of the 9th International Conference on Business Information Security (BISEC2017), Metropolitan University, Belgrade, October 18th, 2017, pp. 82-85. [M34]
- S. Savić, M. Gnjatović, D. Mišković, J. Tasevski, N. Maček (2017): "Cognitively-Inspired Symbolic Framework for Knowledge Representation". In Proc. of the 8th IEEE International Conference on Cognitive Infocommunications (CogInfoCom 2017), Debrecen, Hungary, September 11-14, 2017, pp. 315-320. [M33]
- M. Gnjatović, D. Mišković, S. Savić, B. Borovac, N. Maček, B. Trenkić (2017): "A Novel Modular Architecture for Conversational Robotic Agents". In Proc. of the 4th International Conference on Electrical, Electronic and Computing Engineering IcETRAN 2017, Kladovo, Serbia, June 5-8, 2017, pp. ROI2.4.1-4. [M33]
- B. Vujanić, N. Maček, S. Adamović (2017): "An Implementation of Ransomware Malicious Software in Python". In Sinteza 2017 – International Scientific Conference on Information Technology and Data Related Research, Belgrade, Singidunum University, Serbia, 2017, pp. 19-24. [M33]
- N. Maček, I. Franc, M. Bogdanoski, A. Mirković (2016): "Multimodal Biometric Authentication in IoT: Single Camera Case Study". In Proc. of the 8th International Conference on Business Information Security (BISEC2016), Metropolitan University, Belgrade, October 15th, 2016, pp. 33-37. [M33]
- I. Franc, N. Maček, M. Bogdanoski, A. Mirković, D. Đokić (2016): "Detecting Malicious Anomalies in IoT: Ensemble Learners and Incomplete Datasets". In Proc. of the 8th International Conference on Business Information Security (BISEC2016), Metropolitan University, Belgrade, October 15th, 2016, pp. 44-49. [M33]
- B. Đorđević, V. Timčenko, N. Maček (2014): "Issues in Cloud Computing: Performance Evaluation of Type-1 Hypervisors". In proc. of the 18th International Conference ELECTRONICS 2014, June 16-18, Palanga, Lithuania, pp. 55-58. [M33]

Technical solutions:

- B. Đorđević, N. Maček, V. Timčenko, S. Boštjančič Rakas (2019): "An Implementation of block-based iSCSI and FC network storage protocols for the case study of IS LPA application". Project: Biosensing technologies and global system for continuous research and integrated management of ecosystems, Institute Mihajlo Pupin, Beograd, number of the technical solution: III43002-A1-2019. [M85]
- B. Đorđević, N. Maček, V. Timčenko, S. Boštjančič Rakas (2019): "Optimal usage of persistent storage objects within Docker containers and its application to IS LPA". Project: Biosensing technologies and global system for continuous research and integrated management of ecosystems, Institute Mihajlo Pupin, Beograd, number of the technical solution: III43002-2019A2. [M85].

Summary data (according to the Serbian academic classification, all publications):

Group	Type	K-value	Publication no.	Total M pts.
M10	M14	4	2	8
M20	M21a	10	3	30
M20	M21	8	2	16
M20	M22	5	7	35
M20	M23	3	8	24
M20	M24	2	3	6
M30	M33	1	24	24
M30	M34	0.5	6	3
M50	M52	1.5	1	1.5
M50	M54	0.2	3	0.6
M60	M63	1	8	8
M70	M70	6	1	6
M80	M85	2	2	4

- $M10 + M20 + M31 + M32 + M33 + M41 + M42 = 143$
- $M11 + M12 + M21a + M21 + M22 + M23 = 105$
- Total (without M70): 160.1; total: 166.1

Citations and review activity

Citations (source: Google Scholar, last time checked January, 2023):

- 496, h-index 13, i-10 index 16.
- Since 2018.: 399, h-index 11, i-10 index 14.

Selected citations (excluding self-citations in M20 category papers, according to the Serbian academic classification, last time checked July 2021):

- Hachaj, T., Koptyra, K., & Ogiela, M. R. (2021): "Eigenfaces-Based Steganography", *Entropy*, 23(3), 273.
- Mojahed, M., Molahosseini, A. S., & Zarandi, A. A. E. (2021): "A Multifunctional Unit For Reverse Conversion and Sign Detection Based on The 5-Moduli Set", *Computer Science*, 22(1).
- Sun, S., Du, R., & Chen, S. (2021): "A Secure and Computable Blockchain-Based Data Sharing Scheme in IoT System", *Information*, 12(2), 47.
- Li, P., & Tian, S. (2021): "Research on image communication of urban film and television advertisement based on complex embedded system", *Microprocessors and Microsystems*, 83, 103996.
- Kuleshova, E., Marukhlenko, A., Dobritsa, V., & Tanygin, M. (2020): "Formation of Unique Characteristics of Hiding and Encoding of Data Blocks Based on the Fragmented Identifier of Information Processed by Cellular Automata", *Computers*, 9(2), 51.
- Cai, Y., Tang, C. and Xu, Q. (2020): "Two-Party Privacy-Preserving Set Intersection with FHE", *Entropy*, 22(12), p.1339.
- Ritter, G. X., Urcid, G., & Lara-Rodríguez, L. D. (2020): "Similarity Measures for Learning in Lattice Based Biomimetic Neural Networks", *Mathematics*, 8(9), 1439.
- Rahman, M., & Hamada, M. (2020): "Burrows–Wheeler Transform Based Lossless Text Compression Using Keys and Huffman Coding", *Symmetry*, 12(10), 1654.
- Shi, Y., Lv, L., Yu, H., Yu, L., & Zhang, Z. (2020): "A Center-Rule-Based Neighborhood Search Algorithm for Roadside Units Deployment in Emergency Scenarios", *Mathematics*, 8(10), 1734.
- Sáiz-Manzanares, M. C., Marticorena-Sanchez, R., & García-Osorio, C. I. (2020): "Monitoring students at the university: Design and application of a moodle plugin", *Applied Sciences*, 10(10), 3469.

Review activity:

1. Peer-reviewed scientific journal articles:

- Acta Polytechnica Hungarica (Óbuda University and IEEE Hungary Section) – 2 article reviews;
- Applied Sciences (MDPI) – 1 article review, Cryptography (MDPI) – 2 article reviews, Diagnostics (MDPI) – 2 article reviews, Entropy (MDPI) – 1 article review, Mathematics (MDPI) – 2 article reviews, Sensors (MDPI) – 3 article reviews, Signals (MDPI) – 1 article review, Sustainability (MDPI) – 1 article review;
- Computer Applications in Engineering Education (Wiley Periodicals, LLC) – 2 article reviews;
- Computer Science Journal (AGH University of Science and Technology, Krakow, Poland) – 2 article reviews;

- Pattern Analysis with Applications (Springer) – 2 article reviews;
 - Technical Gazette (Mechanical Engineering Faculty in Slavonski Brod) – 6 article reviews;
 - TELFOR Journal – 4 article reviews.
2. Peer-reviewed scientific conference papers:
- Archibald Reiss Days (University of Criminal Investigation and Police Studies) – 3 conference paper reviews;
 - BISEC international conference (Metropolitan University) – over 20 reviews of papers addressing information security;
 - Cognitive Infocommunications (IEEE) – 3 conference papers reviews;
 - IcETRAN international conference (The Society for Electronics, Telecommunications, Computing, Automatics and Nuclear engineering) – over 15 reviews of papers addressing artificial intelligence.
3. Relevant book chapter reviews:
- Innovations in Big Data Mining and Embedded Knowledge (Springer series in Intelligent System Reference Library) – 1 book chapter review.
4. Relevant book reviews:
- Bruce Schneier (2007): "Applied Cryptography" (Serbian edition). Mikro Knjiga, Belgrade.

Projects

- "Modernization of the *Protocols and technologies of wireless systems* curriculum in the master study computer engineering programme" (MKPTVS) – Republic of Serbia, Ministry of Education, Science and Technological Development, no: 111-000-00057/2020-06, 2020–2021. Project leader: professor Branimir Trenkić, PhD.
- "Building a Cyber Resilient Society in South East Europe", 2016–2017, sponsored by RACVIAC – Centre for Security Cooperation and German Government.

Selected Invited and Plenary Talks, Interviews and Media Reports

- Digital Icons, Radio Beograd 2, July 26, 2022. Interview.
- "IT Security at the Present Moment", Panel discussions at the 35th International Conference Infotech, Aranđelovac, Serbia, June 24, 2020. Plenary talk.
- "Biometric Cryptosystems", ESECURITY 2018 Conference (hack or be hacked), April 26-27, 2018, Crowne Plaza Hotel, Belgrade. Invited talk.
- "Information Security and Machine Intelligence", ESECURITY 2017 Conference, May 30-31, 2017, Crowne Plaza Hotel, Belgrade. Invited talk.
- "What have Technologies all Done for us: IoT and Deep Learning". Radio Television of Serbia 2, May 2017. Media report.

- "Penetration Testing", RACVIAC – Centre for Security Cooperation, Advanced Training Course in Cyber Security, October 2016, Zagreb, Croatia, supported by the NATO Science for Peace and Security Programme. Invited talk.

Editorial Boards and Programme Committee Membership

- "Journal of Computer and Forensic Sciences", published by University of Criminal Investigation and Police Studies. Member of the Editorial Board (2022 – present).
- Business Information Security Conference. Member of the Programme Committee (September 2016 – present).

Society Memberships

- International Society for Development and Sustainability (ISDS), Japan. Associate member.
- eSigurnost Association, Belgrade, Serbia.

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