

**38<sup>th</sup> International Conference on Information  
Technologies (InfoTech-2024)  
IEEE Conference, Rec. # 62 258  
11-12 September 2024**

**Scientific Program of the virtual forum**

**InfoTech-2024 Organizers**



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## General Remarks

✓ All abstracts for the conference reports are published in **InfoTech-2024 Conference Proceeding (ISSN 1314-1023)** and is available in the website section “Conference Proceedings” by URL: <http://infotech-bg.com/conference-processes>

✓ All articles with “1” as a first symbol of the paper index will be included in the **IEEE Xplore Compliant (Digital Library, ISBN 979-8-3503-6568-9)** and published in **IEEE InfoTech-2024-eProceedings (CD-ROM), ISBN 979-8-3503-6567-2**. Access to all Proceedings by URL: <https://ieeexplore.ieee.org/xpl/conhome/1828024/all-proceedings>

✓ All article with “2” as a first symbol of the paper index are published in a “Special Section” of the **International Journal on Information Technologies and Security**, vol. 16, no. 3, 2024 (ISSN 1313-8251) without including in the IEEE CD-ROM. Access to all published issues by URL: <https://ijits-bg.com/ijitsarchive>

## Wednesday, 11 September 2024

### 10:00 – 15:00 Virtual Session (1)

Final discussion between all participants and authors of reports in sections [A], [B] and [C] by using the virtual forum on conference website and e-mails contacts.

### Section A: Information Technologies

[1A1] **Neural network and transformer-based PoS tagger for low resource languages**

*Endrit Fetahi, Mentor Hamiti, Arsim Susuri, Jaumin Ajdari, Xhemal Zenuni*  
(North Macedonia)

[1A2] **Developing audio zoom in virtual environments: Real-world soundscapes and targeted noise detection**

*Stephen Stroud, Karl Jones, Gerard Edwards, Colin Robinson, Sebastian Chandler-Crnigoj, David Ellis* (United Kingdom)

[1A3] **Methods for Synthesis of Generalized Skew-Symmetric Sequences with Even Lengths**

*Borislav Bedzhev, Dilyan Ivanov Dimitrov* (Bulgaria)

[1A4] **A Method for Synthesis of Mismatched Filters Providing Large Zero Correlation Zones**

*Borislav Bedzhev, Dilyan Ivanov Dimitrov* (Bulgaria)

[1A5] **Methods and algorithms for cross-language search of source code fragments**

*Artyom V. Gorchakov, Liliya A. Demidova* (Russian Federation)

[1A6] **Architecture of a regular expression translator with optimization of intermediate states**

*Liliya Anatolyevna Demidova, Nikita Andreevich Moroshkin* (Russian Federation)

### Section B: Information Security

- [1B1] **Persuasion potential: Assessment through differences between the complexity of texts, generated with ChatGPT 3.5, and texts from traditional media**  
*Plamen Atanasov* (Bulgaria)
- [1B2] **Suitability of information security frameworks for an IT-centric ISMS**  
*Veselin Monev* (Switzerland)
- [1B3] **Aviation safety within an information security risk management process (EASA Part-IS)**  
*Veselin Monev* (Switzerland)

### Section C: Networking and Communication Technologies

- [2C1] **Preliminary organization of virtual network based on program monitoring**  
*Radi Romansky* (Bulgaria)
- [2C2] **Applications of BIC DATA in renewable energy based on cloud computing**  
*Tarun Shakthi Sreedhar, Saiful Islam, Meron Atmoso, Elaheh Yazdandoust, Mohamed Suliman Elnaim, Shomesh Mishra, Venkata Naresh, Vemparala Rupali Bajpai* (Germany)

**Thursday, 12 September 2024**

### 10:00 – 15:00 Virtual Session (2)

Final discussion between all participants and authors of reports in sections [D], [E] and [F] by using the virtual forum on conference website and e-mails contacts.

### Section D: Intelligent Systems and Applications

- [1D1] **Personalization of Lifelong Learning in school educational platform**  
*Todorka Glushkova, Evgeni Valchev, Irina Krasteva* (Bulgaria)
- [1D2] **A Web Application for Video transcript Summarizer and Translator**  
*Kranthi Kumar G., Ershathunnisa Shaik, Hima Harshitha Angadala* (India)
- [1D3] **Traffic Information Centers (TICs) in the Netherlands versus sensors in the cars**  
*Leon Rothkrantz* (The Netherlands)
- [1D4] **Improving Full Horizontal Plane Binaural Sound Localization by use of BiLSTM**  
*Jago T. Reed-Jones, Paul Fergus, Davis L. Ellis, John Marsland, Karl O. Jones* (UK)
- [1D5] **Approaches for usage of ontologies in some domains, working with imprecise, uncertain or vague knowledge**  
*Tatyana Ivanova Ivanova* (Bulgaria)
- [1D6] **Usage of semantic technologies for representing non-precise or vague knowledge**  
*Tatyana Ivanova Ivanova* (Bulgaria)
- [1D7] **Decision tree pruning method using delayed sampling**  
*Sergei Alexandrovich Mitrofanov, Eugene Stanislavovich Semenkin* (Russian Federation)

[1D8] **On the efficiency of the Evolutionary approach to dynamic objects identification in the form of differential equations systems**

*Tatiana Sergeevna Karaseva, Eugene Stanislavovich Semenkin* (Russian Federation)

[2D9] **Analysing the electricity load and production by means of different machine learning methods: A case study of a MG system**

*Saiful Islam<sup>1</sup>, Amin Suaad<sup>1</sup>, Michael Hartmann<sup>1</sup>, Goran Rafajlovski<sup>1,2</sup>*

(<sup>1</sup> Germany; <sup>2</sup> North Macedonia)

#### Section E: Technologies for System Design

[1E1] **Optimizing an Intelligent Fuzzy-hybrid Proportional-Integral-Derivative (PID) controller for Load Frequency Control systems**

*Shahrzad Jangiri, Karl O. Jones* (United Kingdom)

[1E2] **Environmental Sustainability: Attitude of Bulgarian IT Students**

*Elena Somova, Denitza Charkova* (Bulgaria)

[1E3] **A Study of Planar Antennas for Integration in Drones Equipped with Doppler Radars**

*Yoana Ivanova* (Bulgaria)

[1E4] **A Comparative Analysis of Gemstones for Laser Applications based on Digital and Simulation Methods**

*Yoana Ivanova* (Bulgaria)

[2E5] **Modified Genetic Algorithm for Unit Commitment of GRID-connected Microgrid under Real-time Pricing Conditions**

*Natasha Dimishkovska Krasteski, Atanas Iliev* (North Macedonia)

[2E6] **A hybrid method for designing power electronic device based on their life cycle**

*Nikolay Hinov* (Bulgaria)

[1E7] **Development of a Hardware System for Digital Control of a Boost DC/DC Converter**

*Ivan Hristov, Nikolay Hinov* (Bulgaria)

[1E8] **Significance of strain gauge test for evaluating the quality of LGA joints using statistical analysis**

*Nedyalko Peshev, Valentin Tsenev* (Bulgaria)

[1E9] **Creation and research of an intelligent measuring system for measuring and controlling the turning force of bearing taps**

*Valentin Tsenev, Preslav Hristov, Miroslav Slavchev, Teodor Draganov* (Bulgaria)

#### Section F: Technological Aspects of e-Government and Privacy

[1F1] **Improving the Level of Suburban Development Through the Application of 5G Technologies and their Implications for Regional Governance**

*Nikolay Tsonkov, Kamen Petrov* (Bulgaria)

**15:00 Conference Closing**