

Wednesday, November 23rd, 2022

Registration of participants

10.00-12.00

Hotel Tatra – Registration point

Conference opening (with Lunch)

12.00 – 13:30

Plenary session – Invited lectures

13.30-15.30

Chairman: William Steingartner

Jarmila Škrinárová

Heterogeneous Cloud Systems and Criteria for Enhanced Performance

Zoltán Porkoláb

Save the Earth, Program in C++!

Pawel Kossecki

Valuation of Intellectual Property in IT industry. Selected Problems

Coffee break

15.30-16.00

Regular sessions

16.00-18.40

Welcome Dinner

19.00

Wednesday, November 23rd, 2022

Session A: New Trends in IT Security

16.00-18.20

Chairman: Jarmila Škrinárová

16.00-16.20 William Steingartner, Darko Možnik and Darko Galinec
Disinformation Campaigns and Resilience in Hybrid Threats Conceptual Model

16.20-16.40 Petr Šaloun, Michaela Kolářová, David Andrešič, Martin Malčík and Milan Klement
Teen-sexting on Social Network "Instagram" and it's Computational Thinking Consequences

16.40-17.00 Jozef Kostolný and Veronika Šalgová
Access Security Module of the Medical Data Management System

17.00-17.20 Sergiusz Ślawczyk and Olga Siedlecka-Lamch
How to improve blockchain for blogosphere?

17.20-17.40 Tomáš Golis, Pavle Dakić and Valentino Vranić
Creating Microservices and using infrastructure as code within the CI/CD for dynamic container creation

17.40-18.00 Altangerel Gereltsetseg, Máté Tejfel and EnkhTUR Tsogbaatar
A 1D CNN-based model for IoT anomaly detection using INT data

18.00-18.20 Dajana Antanasijević, Sonja Ristić, Marko Vještica, Vladimir Dimitrieski and Milan Pisarić
Towards a Formal Specification of Human Worker for Industry 4.0

Wednesday, November 23rd, 2022

Session B: Applied Computer Science

16.00-18.20

Chairman: Paweł Koscecki

16.00-16.20 Bogdan Walek and Patrik Müller

Using Word2Vec for news articles recommendations: Considering evaluation options for hyperparameter optimization and different input options

16.20-16.40 Jiří Dostál, Radim Děřda, Pavlína Částková, Michal Mrázek, Jan Kubrický, William Steingartner, Hana Bučková, Miroslav Janu and Jiří Kropáč

Innovative Concept of STEAM Education at Primary Schools in the Czech Republic - Support for Implementation in School Practice

16.40-17.00 Urszula Świerczyńska-Kaczor, Malgorzata Kotlińska and Edyta Banachowska

Interrelations between Player Experience and Reader Experience. Case Study of Poem-Based Game Poodle and Hound

17.00-17.20 Štefan Lapšanský and Ján Lang

Modeling an author's specific expertise based on educational-related artifacts analysis

17.20-17.40 Anett Fekete and Zoltan Porkoláb

Report on a Field Experiment of the Comprehension Strategies of Computer Science MSc Students

17.40-18.00 Andrea Galadíková and Norbert Adamko

Simulation-based optimization of personnel assignment in railway nodes

18.00-18.20 Renáta Cenková and William Steingartner

Luxury in the Time of COVID-19

Wednesday, November 23rd, 2022

Session C: Theoretical Computer Science

16.00-18.40

Chairman: Wolfgang Schreiner

16.00-16.20 Vitalii Tsimbolynets and Ján Perháč

Visualization of imperative programs translation with Structural Operational Semantics

16.20-16.40 Wolfgang Schreiner and Ágoston Sütő

A Temporal Logic Extension of the RISCAL Model Checker

16.40-17.00 William Steingartner, Richard Zsiga and Davorka Radaković

Natural semantics visualization for domain-specific language

17.00-17.20 Gábor Sági and Karrar Al-Sabti

Metric retractions and similarity detecting algorithms

16.40-17.00 Alex König

Analysing the Properties of Hierarchical RBFs for Interpolation

17.40-18.00 Michal Mrena, Miroslav Kvassay and Michal Varga

Experimental Comparison of Array-based and Linked-based List Implementations

18.00-18.20 Zuzana Káčereková

Comparing Interpolations Using Standard and Normalized Radial Basis Functions

18.20-18.40 Martin Cervenka

Geometry Algebra and Gauss Elimination method for solving a linear system of equations without division

Thursday, November 24th, 2022

Regular sessions

08.30-11.40

Lunch

12.00

Trips

13.15 Trip A – *Nestville Park, Hniezdne*

Trip B – *Museum in Poprad*

Banquet

19.00

Thursday, November 24th, 2022

Session A: Applied Computer Science

08.30-12:00

Chairman: Michal Kvet

08.30-08.50 Matúš Sulír and Marcel Regeci

Software Engineers' Questions and Answers on Stack Exchange

08.50-09.10 Igor Stupavský and Valentino Vranić

Analysing the controversial social media community

09.10-09.30 Endre Fülöp, Attila Gyen and Norbert Pataki

C++ Source Code Rejuvenation for an Improved Exception Specification

09.30-09.50 Jozef Kostolny and Veronika Salgova

A System for the Management of Proposal of Assignments of Final Thesis by Microservice

09.50-10.20 Coffee break

10.20-10.40 Benjámín Barth, Richárd Szalay and Zoltán Porkoláb

Towards Safer Parallel STL Usage

10.40-11.00 Ondrej Havlicek, Martin Cervenka and Josef Kohout

Collision detection and response approaches for computer muscle modelling

11.00-11.20 Michal Mrázek and Pavlína Částková

Implementation of typology of psychomotor tasks in teaching technically oriented subjects at primary school (ISCED 1, ISCED 2)

Thursday, November 24th, 2022

Session B: Smart Technologies

08.30-11.40

Chairman: Adam Dudáš

08.30-08.50 Peter Sedlacek, Patrik Rusnak and Sergey Stankevich

Critical state analysis of drone fleet in limited space

08.50-09.10 Anca-Maria Iliencescu, Alexandru Iovanovici and Mircea Vladutiu

Supervised learning data preprocessing for short-term traffic flow prediction

09.10-09.30 Norbert Ferencík, Radovan Hudák, Branko Štefanovič, Miroslav Kohan, Tomáš Breškovič and William Steingartner

Polyamide 12 Pickling Equipment for 3D Printed Parts

09.30-09.50 Norbert Ferencík, Radovan Hudák, Branko Štefanovič, Miroslav Kohan, Veronika Sedláková and William Steingartner

Monitoring the Quality of Sleep Using a Smart Bracelet at Different Light Spectrum

09.50-10.20 Coffee break

10.20-10.40 Jakub Oravec, Luboš Ovseník, Maroš Lapčák, Norbert Zdravecký and Samuel Andrejčík

An Image Encryption Algorithm Suitable for Medical Images

10.40-11.00 Norbert Zdravecký, Luboš Ovseník, Jakub Oravec, Maroš Lapčák and Samuel Andrejčík

Experimental Simulation of 30x100 Gb/s DWDM Communication System

11.00-11.20 Maroš Lapčák, Luboš Ovseník, Jakub Oravec, Norbert Zdravecký and Samuel Andrejčík

Design and simulation of a microstrip antenna for the needs of a hybrid FSO/RF system

11.20-11.40 Samuel Andrejčík, Ľuboš Ovseník, Jakub Oravec,
Norbert Zdravecký and Maroš Lapčák
Image steganography with using QR code

Thursday, November 24th, 2022

Session C: Human-Computer Interaction

08.30-09.50

Chairman: Davorka Radaković

08.30-08.50 Patrik Voštinár and Michal Šrobár

Game control via EEG helmets

08.50-09.10 Jacek Wachowicz, Andrzej Karp and Pawel Kossecki

On the Friendliness of Physical vs. Virtual Manipulators in Music Software - from a Perspective of Software Developers

09.10-09.30 Lukáš Tomaszek, Miroslava Miklošiková and Martin Malčík

Classification of Activating and Deactivating Emotions for Chatbots Using Statistical Methods

09.30-09.50 Oliver Udvardi and Ján Lang

SCRUM Retrospective Discussions Support Based on Class-Diagram Redocumentation

09.50-10.20 Coffee break

Thursday, November 24th, 2022

Workshop on Head-mounted VR-based BCI

10.00-11.40

Chairman: Roman Rosipal

10.00-10.20 Stanislaw Zakrzewski, Bartłomiej Stasiak and Adam Wojciechowski

EEG-based left-hand/right-hand/rest motor imagery task classification

10.20-10.40 Roman Rosipal, Štefan Korečko, Zuzana Rošťáková, Natália Porubcová, Martin Vankó and Branislav Sobota

Towards an Ecologically Valid Symbiosis of BCI and Head-mounted VR Displays

10.40-11.00 Zuzana Rošťáková and Roman Rosipal

EEG artefact correction by using tensor decomposition methods

11.00-11.20 Maksims Ivanovs, Beate Banga, Valters Abolins and Krisjanis Nesenbergs

Methods for Explaining CNN-Based BCI: A Survey of Recent Applications

11.20-11.40 Ophir Almagor, Ofer Avin, Roman Rosipal and Oren Shriki

Using Autoencoders to Denoise Cross-Session Non-Stationarity in EEG-Based Motor-Imagery Brain-Computer Interfaces

Friday, November 25th, 2022

Regular sessions

09.00-11.20

Lunch

11.30

Conference closing

13.00

Friday, November 25th, 2022

Session A: Programming Languages and Programming Paradigms

09.00-11.00

Chairman: Zoltán Porkoláb

09.00-09.20 Adam Dudáš, Daniel Demian and Jarmila Škrinárová
On Relational Language Translation

09.20-09.40 Sergej Chodarev and Sharoon Ilyas
Metamodel-based Parser Generator for Python

09.40-10.00 Štefan Korečko, Branislav Sobota, Miriama Mattová and Adam Kašela
Petri-Net-Driven Educational Scenarios in Web-Based Extended Reality

10.00-10.20 Coffee break

10.20-10.40 Sylwia Stachowiak, Mirosław Kurkowski and Artur Soboń
New results in SAT - cryptanalysis of the AES

10.40-11.00 Viktor Zhukovskyy, Damon Printz, Yuriy Demchuk and Kostiantyn Holiuk
Human-Computer Interaction in IoT System for Water Tank Monitoring and Controlling

Friday, November 25th, 2022

Session B: Artificial Intelligence

09.00-11.00

Chairman: Gábor Sági

09.00-09.20 Mirwais Ahmadzai and Giang Nguyen

An opinion mining with federated learning on the Afghan-People survey data

09.20-09.40 Alžbeta Michalíková and Adam Dudáš

Use of intuitionistic fuzzy set methods in parallel classification of image data

09.40-10.00 Zdeněk Buk, Anežka Pilmann Kotěrová, Jaroslav Brůžek and Jana Velemínská

Skeletal age-at-death estimation from the acetabulum based on a convolutional neural network

10.00-10.20 Coffee break

10.20-10.40 Petr Veigend, Gabriela Nečasová and Vaclav Šátek

Taylor Series Method in Numerical Integration: Linear and Nonlinear problems

10.40-11.00 Tomáš Vyčítal

Fuzzy decision support system for human-realistic overtaking in railway traffic simulations

Friday, November 25th, 2022

Session C: Data and Knowledge Bases

09.00-11.00

Chairman: Olga Siedlecka-Lamch

09.00-09.20 Marek Kvet

Heuristics for Multi-Objective Service System Designing

09:20-09.40 Michal Kvet

Impact of Disc Types on Database Performance

09.40-10.00 Michal Kvet

Relation between the Temporal Database Environment and Disc Block Size

10.00-10.20 Coffee break

10.20-10.40 Michal Mrena and Miroslav Kvassay

Comparison of Single MDD and Series of MDDs in the Representation of Structure Function of Series-Parallel MSS

10.40-11.00 Marián Jencik, Anna Grinčová, Dušan Šimšík and Alena Galajdová

E-Learning Study Support and Accessible Documents Creation for Students with Special Needs