EAI COMPUTER SCIENCE AND EDUCATION

IN COMPUTER SCIENCE

(CSECS)

19th ANNUAL INTERNATIONAL CONFERENCE

June 28th – 29th, 2023

All times are in Eastern Daylight Time (EDT) (UTC-4), Boston, USA

1010 Commonwealth Avenue, Boston, USA

Venue

Metropolitan College, Boston University, Boston, USA

Zoom link:

https://bu-metcollege.zoom.us/j/546814982?pwd=UFl4dkU3TzlnZDlUeGlIc0JJMmQvZz09

Please, pay attention to the time difference between Bulgaria, Boston, USA, Germany, Portugal, and China

Eastern European Summer Time (EEST) (UTC+3), Bulgaria

China Standard Time (CST), (UTC+8), Beijing, China

Western European Time (WET) (UTC+1), Covilhã, Portugal

Timetable

28 June 2023, Wednesday

8:30 am – 9:00 am, On-site registration

9:00 am - 9:30 am

Welcoming Remarks

Prof. Tanya Zlateva, Dean of Metropolitan College, Boston University

Kristina Havlickova, European Alliance of Innovation, General Sponsor

Prof. Ivan Landjev, New Bulgarian University, General Chair of CSECS 2023, online

Session Education in Computer Science, 9:30 am – 10:50 am

Chairs: Prof. Pinsky, Prof. Tuparov

9:30 am – 9:50 am Tuparov, Georgi <gtuparov@nbu.bg> (New Bulgarian University); Tuparova, Daniela <ddureva@swu.bg> (South-West University "Neofit Rilski"), **The Ecosystem of Computer Science Education in Bulgarian Primary School: State of the Art**

9:50 am – 10:10 am Riauwindu, Putranegara <putrangr@bu.edu> (Boston University); Zlatev, Vladimir <zlatev@bu.edu> (Boston University), **Using Extract, Transform, and Load Framework and Data Visualization Tools to Enhance Career Services for Analytics Master`s Program Student**

10:10 am – 10:30 am Gourova, Elissaveta <elis@fmi.uni-sofia.bg> (Sofia University), **A school to remember: analyzing school best practices in the perspective of digital transformation of schools**

10:30 am – 10:50 am Elentukh, Alex <elentukh@bu.edu> (Boston University), **People Make Mistakes: A Survey of Common Causes of Software Defects**

Coffee Break, 10:50 am – 11:10 am

Session Computer Science Implementations I, 11:10 am – 12:30 pm

Chairs: Prof. Zlatev, Assoc. Prof. Goleva

11:10 am – 11:25 am Pinsky, Eugene**, Works of Girolamo Cardan (https://en.wikipedia.org/wiki/Gerolamo_Cardano)**

11:25 am – 11:45 pm Pinsky, Eugene <epinsky@bu.edu> (Metropolitan College, Boston University); Elakoum, fara <felakoum@bu.edu> (Metropolitan College Boston University); Yash, Kumar <yaxh307@gmail.com> (Metropolitan College Boston University); Gill, Eashan <esgill@bu.edu> (Metropolitan College, Boston University); Adiraju, Sriya <sria17@bu.edu> (Metropolitan College, Boston University); Sree, Das <vbs@bu.edu> (Metropolitan College, Boston University); Kiran, Kushi <kushik@bu.edu> (Metropolitan College, Boston University)**, "Studying" Foreheads: ML-based Analysis of Cardan™s Metoposcopy**

11:45 am – 12:05 pm Kostadinov, Georgi <grgkostadinov@gmail.com> (New Bulgarian University), **AI-Enabled Infrared Thermography: Machine Learning Approaches in Detecting Peripheral Arterial Disease**

12:05 pm – 12:25 pm Landjev, Ivan <i.landjev@nbu.bg> (New Bulgarian University); Bajalan, Maryam <mar.bajalan@gmail.com> (Institute of Mathematics and Informatics - BAS); Rousseva, Assia <assia@fmi.uni-sofia.bg> (Sofia University), **On the p-Rank of the Incidence Matrix of a Projective Hjelmslev Plane**

Coffee Break, 12:25 pm – 1:00 pm

Session Computational Math, 1:00 pm – 2:00 pm

Chairs: Prof. Braude, Prof. Landjev

1:00 pm – 1:20 pm Pinsky, Eugene <epinsky@bu.edu> (Metropolitan College, Boston University); Sarthak, Pattnaik <spattna1@bu.edu> (metropolitan College Boston University)**, α-Based Similarity Metric in Computational Advertizing: A New Approach to Audience Extension**

1:20 pm – 1:40 pm Page, Greg <gpage@bu.edu> (Boston University), **Effective Visualizations of Clustering Models**

1:40 pm – 2:00 pm Klawansky, Sidney <sidney.klawansky@alum.mit.edu> (Department of Health Policy and Management, Harvard Chan School of Public Health 2, 677 Huntington Ave, Boston, MA 02115 (former affiliation)); Balswick, Brielle <brielleb@bu.edu> (Metropolitan College, Boston University); Alsayel, Meaad <sayelmm@bu.edu> (Metropolitan College, Boston University); Charvachidze, Iryna <irynach@bu.edu> (Metropolitan College, Boston University); Manghwani, Anuka <anuka.debate@gmail.com> (none); Almeida, Pearl <palmeida@bu.edu> (Metropolitan College, Boston University); Dalvi, Dharmit <dharmit@bu.edu> (Metropolitan College, Boston University); Vora, Janvi <vorajanvi1999@gmail.com> (Metropolitan College, Boston University); pinsky, eugene <epinsky@bu.edu> (Metropolitan College, Boston University), **On Some Alternative Probability Density Metrics for Analyzing Empirical Datasets**

Session Software Engineering, 2:00 pm – 2:40 pm

2:00 pm – 2:20 pm Dinev, Dobromir <dobromir@gmail.com> (NBU), **Holistic (software) quality theory: An improved definition and meta-model**

2:20 pm – 2:40 pm Chebanyuk, Olena <chebanyuk.olena@gmail.com> (New Bulgarian University), **Software reuse approach based on review and analysis of reuse risks from projects uploaded to GitHub**

Short coffee break

Health Informatics, 2:40 pm – 4:00 pm

Chairs: Prof. Page, Assoc. Prof. Goleva

2:40 pm – 3:00 pm Kolev, Martin <ravenfrost@abv.bg> (New Bulgarian University); Trenchev, Ivan <wonther2000@yahoo.com> (University of Library Studies and Information Technologies, Sofia, Bulgaria); Traykov, Metodi <mtraykov@nbu.bg> (New Bulgarian University); Mavrevski, Radoslav <radoslav_sm@abv.bg> (South-West University "Neofit Rilski", Blagoevgrad, Bulgaria); Ivanov, Iliyan <ivanov@swu.bg> (South-West University "Neofit Rilski"), **The Impact of Virtual and Augmented Reality on the Development of Motor Skills and Coordination in Children with Special Educational Needs**

3:00 pm – 3:20 pm Zhen, Zitian <az971201@bu.edu> (Boston University); Wang, Yuhe <wyuhe@bu.edu> (Boston University); Keskin, Derin B. <derin_keskin@dfci.harvard.edu> (Dana-Farber Cancer Institute); Brusic, Vladimir <Vladimir.Brusic@nottingham.edu.cn> (University of Nottingham Ningbo China); Chitkushev, Lou <ltc@bu.edu> (Boston University); ZHANG, Guanglan <guanglan@bu.edu> (Boston University), **Deep Learning Models for Vaccinology: Predicting T-cell Epitopes in C57BL/6 Mice**

3:20 pm – 3:40 pm Tomov, Latchezar <luchesart@gmail.com> (New Bulgarian University); Velikova, Tsvetelina <tsvelikova@medfac.mu-sofia.bg> (Sofia University St. Kliment Ohridski); Batselova, Hristiana <dr_batselova@abv.bg> (Medical University of Plovdiv), **Changes in patterns of infectivity and mortality with SARS-CoV-2 Omicron variant in Bulgaria**

3:40 pm – 4:00 pm Cambareri, Morgan <morgankc@bu.edu> (Boston University, Biomedical Engineering Department); Alizadeh-Shabdiz Ph.D., MBA, Farshid <alizadeh@bu.edu> (Boston University, Computer Science Department, MET College), **Data Representations and Ensemble Deep Learning Networks for Functional Neuroimaging Datasets**

29 June 2023, Thursday

Session **Computer Architecture and Networks***, 9:00 am – 11:00 am*

Chairs: Prof. Zlatev, Assoc. Prof. Gorbounov

9:00 am – 9:20 am Ivanova, Yoana <yivanova@nbu.bg> (New Bulgarian University); Petrov, Georgi <gpetrov@nbu.bg> (New Bulgarian University) **A Methodology for Engineering Design and Simulation of a Satellite Horn Antenna**

9:20 am – 9:40 am Chen, Fengyun <fchen12@bu.edu> (Boston University), **IEEE_802.11ax_TECHNOLOGY**

9:40 am – 10:00 am Gorbounov, Yassen <ygorbounov@nbu.bg> (New Bulgarian University); Chen, Hao <hchen@cumt.edu.cn> (China University of Mining and Technology), **Optimized FPGA implementation of an artificial neural network using a single neuron**

10:00 am – 10:20 am Goleva, Rossitza <rgoleva@gmail.com> (New Bulgarian University); Savov, Alexandar <savov@comicon.bg> (Comicon Ltd.); Tomanov, Vasko <vt@b2net.net> (B2N Ltd.); Monov, Valentin <valentin.monov@gmail.com> (B2N Ltd.); Koleva, Zhivka <koleva@comicon.bg> (Comicon Ltd.); Sokullu, Radosveta <radosveta.sokullu@ege.edu.tr> (Ege University, Izmir, Turkey); Kostadinova, Hristina <hkostadinova@gmail.com> (New Bulgarian University, Montevideo str. 21, Sofia, Bulgaria); Mihaylov, Svetoslav <svetlio.mihaylov@gmail.com> (Consultant); Garcia, Nuno <ngarcia@di.ubi.pt> (Computer Science Department of the University of Beira Interior, Portugal), **An Approach to Environmental Study from Observations and Sensing Towards a Digital Twin**

Session Business Informatics I, 10:20 am - 11:00 am

Chairs: Prof. Zlateva, Assoc. Prof. Traykov

10:20 am – 10:40 am Traykov, Metodi <mtraykov@nbu.bg> (New Bulgarian University); Trencheva, Miglena <megy_tr2001@swu.bg> (South-West University "Neofit Rilski")**, Assessing the Resilience of the Banking System in the Republic of Bulgaria Using Mathematical Models**

10:40 am – 11:00 am Rusevski, Ivan <ivan.rusevski@students.finki.ukim.mk> (Faculty of Computer Science and Engineering); Todorovska, Ana <ana.todorovska@finki.ukim.mk> (Faculty of Computer Science and Engineering, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia); Vodenska, Irena <vodenska@bu.edu> (Boston University); Chitkushev, Lou <ltc@bu.edu> (Boston University); Trajanov, Dimitar <dimitar.trajanov@finki.ukim.mk> (Ss. Cyril and Methodius University in Skopje, Macedonia), **Interdependencies between cryptocurrency markets, precious metals and energy resources**

Coffee Break, 11:00 - 11:20

Session Business Informatics II, 11:20 am - 12:20 pm

Chairs: Prof. Zlateva, Assoc. Prof. Traykov

11:20 am – 11:40 am Trencheva, Miglena <megy_tr2001@swu.bg> (South-West University "Neofit Rilski"), **Exploring Banking Stability through Diverse Parameters and Mathematical Models**

11:40 am – 12:00 pm Dickson, Krystie <krystied@bu.edu> (Boston University); Zlatev, Vladimir <zlatev@bu.edu> (Boston University), **An Integrated Framework for Assessing Data and Business Analytics Skills for the Job Market**

12:00 pm – 12:20 pm Kaiser, Noor <kaiser@bu.edu> (Metropolitan College, Boston University); Subramani, Akhil <akhilus@bu.edu> (Metropolitan College, Boston University); Ying, Yue <yingyue@bu.edu> (Metropolitan College, Boston University); Park, Kathleen <kmparque@bu.edu> (Metropolitan College, Boston University); Pinsky, Eugene <epinsky@bu.edu> (Metropolitan College, Boston University), **The Application of Data Analytics for Understanding Patterns of Mergers and Acquisitions and CEO Characteristics in and between Crisis Times**

Coffee Break, 12:20 pm - 12:40 pm

Session Computer Science Implementations II, 12:40 pm – 1:20 pm

12:40 pm – 1:00 pm Zeng, Xinyue <zengxiny@bu.edu> (Boston University); Yang, Xing <yangx9@bu.edu> (Boston University); Alizadeh-Shabdiz, Farshid <alizadeh@bu.edu> (Boston University), **Signal Prediction on Catalonia Cell Coverage**

1:00 pm – 1:20 pm Tomov, Latchezar <luchesart@gmail.com> (New Bulgarian University); Tchorbadjieff, Assen <assen@yahoo.com> (Institute of Mathematics and Informatics Bulgarian

Academy of Sciences); Mayster, Penka <penka.mayster@math.bas.bg> (Institute of Mathematics and Informatics Bulgarian Academy of Sciences), **Branching process simulator in R**

1:20 pm – 1:40 pm Laskov, Lasko Marinov <lasko.laskov@gmail.com> (New Bulgarian University); Marinov, Marin Laskov <mlmarinov@nbu.bg> (New Bulgarian University), **List of Optimal Solutions of the Minimum Cost for Minimum Time Assignment Problem**

1:40 pm – 2:00 pm Laskov, Lasko <lasko.laskov@gmail.com> (New Bulgarian University); Radev, Radoslav <radoslav0134@gmail.com> (New Bulgarian University), **Implementation of a CNN for Asterism Classification in Carte du Ciel Astrographic Maps**

Short break

Session Computer Science Education II, 2:00 pm - 3:20 pm

Chairs: Prof. Zlateva, Assoc. Prof. Tuparov

2:00 pm – 2:20 pm Zhang, Yuting <danazh@bu.edu> (Boston University); Yin, Dawei <davidyin@bu.edu> (Boston University); Hu, Sha <baymax@bu.edu> (Boston University), **TeamUp: Form Best Project Teams**

2:20 pm – 2:40 pm Kanabar, Vijay <kanabar@bu.edu> (Boston University),   **An Empirical Study of Student Perceptions When Using ChatGPT in Academic Assignments**

2:40 pm – 3:00 pm Braude, Eric <ebraude@bu.edu> (Boston University), **Value-added Grading of AI-assisted Papers**

3:00 pm – 3:20 pm Yu, Hanbo <yuhanbo@bu.edu> (Boston University), **BU MET ABA program to Quantitative Trading in the Energy Market**

3:20 pm, Closing Remarks

Prof. Zlateva, Prof. Landjev, Kristina Havlickova

8 pm, Official Dinner, more data to be provided