



**The 19th International Conference on Information
Technology: New Generations**

April 11-12, 2022

Virtual Conference

(All times are Pacific Standard Time: GMT-7)

ITNG 2022 PROGRAM

April 11, 2022 - MONDAY

8:00 - 8:10: **Opening Remarks by Dr. Shahram Latifi**
Conference Chair, University of Nevada Las Vegas

8:10 - 9:00: **Keynote by Dr. Piyush Mehrotra**
Chief, NASA Supercomputing Center
“High Performance Computing in Support of NASA’s Mission”

9:00 - 9:15: **Q&A by Audience**

Monday SESSIONS

SESSION M1: Software Engineering

CHAIR: **Dr. Kashif Saleem, King Saud University, Saudi Arabia**

Co-CHAIR:

09:15 - 11:15 (45,47,6,9,52,31)

09:15 - 09:35 A Tool for Syntactic Dependency Analysis on the Web Stack
Manit Singh Kalsi, Kevin Gary, Vasu Gupta and Suddhasvatta Das

09:35 - 09:55 Using Software for Computational Fluid Dynamics and Molecular
Dynamics
Jeena Shetti, Doina Bein, Marian Sorin Nistor and Stefan Pickl

09:55-10:15 A Model-Based Approach for Quality Assessment of Insulin Infusion
Pump Systems
*Tássio Fernandes Costa, Álvaro Sobrinho, Lenardo Chaves E Silva,
Leandro Dias da Silva and Angelo Perkusich*

- 10:15-10:35 Narrowing the gap between Software Engineering teaching and corporate environment
Marcelo Alexandre M. Conceição, Oswaldo Segunda da C. Neto, André B. Baccarin, João Paulo dos S. Mendes, Luan Henrique S. Dantas, Vinícius P. Lippi, Gildarcio Sousa Goncalves, Adilson Cunha, Luiz Dias, Johnny Marques and Paulo Tasinaffo
- 10:35-10:55 API-First Design: A Survey of the State of Academia and Industry
Nicole Beaulieu, Sergiu Dascalu and Emily Hand
- 10:55-11:15 Virtual Reality Multiplayer Interaction and Medical Patient Handoff Training and Assessment
Christopher Lewis, Daniel Enriquez, Lucas Calabrese, Yifan Zhang, Steven Anbro, Ramona Houmanfar, Laura Croswell, Michelle Rebaleati, Luka Starmer and Fredrick Harris

SESSION M2: Data Science and Engineering

CHAIR: **Dr. Kashif Saleem, King Saud University, Saudi Arabia**

Co-CHAIR:

11:15 - 13:15 (50,53,12,33,19,3)

- 11:15-11:35 An Analysis of Quality Dimensions of Open Government Data related to Undergraduate Public Funding in Brazil
Marcelo West and Glauco Carneiro
- 11:35-11:55 A Survey of Real-time ETL Process Applied to Data Warehousing Environments
Flávio Vilela and Ricardo Ciferri
- 11:55-12:15 Participatory Modeling: A New Approach to Model Graph-Oriented Databases
Luis Augusto Neumann, Enzo Seraphim, Otávio A. O. Carpinteiro and Edmilson Marmo Moreira
- 12:15-12:35 Graph-based hierarchical record clustering for unsupervised entity resolution
Islam Akef Ebeid, John Talburt and Md Abdus Salam Siddique
- 12:35-12:55 Semantic-MDBScan: an Approach to Assign a Semantic Interpretation to Behavior Changes Detected in Data Stream Scenarios
Eldane Vieira, Rita Maria Silva Julia and Elaine Ribeiro Faria
- 12:55-13:15 A Study on Usability Assessment of Educational Systems
Heber Miranda Floriano, Mario Jino and Ferruccio de Franco Rosa

13:15-14:00 Break

SESSION M3: Machine Learning

CHAIR: **Dr. Poonam Dharam, Saginaw Valley State University, USA**

Co-CHAIR:

14:00 - 16:00 (39,55,56,57,59,21)

14:00-14:20 Comparison between Machine Learning and Deep Learning Methods for Classification of Cancer Dataset
Fulya Kocaman, [Doina Bein](#), Marian Sorin Nistor and Stefan Pickl

14:20-14:40 Stock Backtesting Engine Using Pairs Trading
Rahul Chauhan, [Doina Bein](#), Wolfgang Bein, Marian Sorin Nistor and Stefan Pickl

14:40-15:00 *Classifying Sincerity Using Machine Learning*
Rachana Chittari, [Doina Bein](#), Abhishek Verma, Marian Sorin Nistor and Stefan Pickl

15:00-15:20 *Recommendation System Using MixPMF*
Rohit Gund, [Doina Bein](#), Wolfgang Bein and James Andro-Vasko

15:20-15:40 Machine Learning for Classification of Cancer Dataset for Gene Mutation Based Treatment
Jai Santosh Mandava, [Fulya Kocaman](#), [Doina Bein](#), Abhishek Verma, Marian Sorin Nistor and Stefan Pickl

15:40-16:00 *Intelligent System for Detection and Identification of Ground Anomalies for Rescue*
[Antonio Josivaldo Dantas Filho](#), Leandro Diniz, Mauricio Almeida, Ella Olsson, Peter Funk and Alexandre Carlos Brandao Ramos

SESSION M4: Potpourri

CHAIR: **Dr. Poonam Dharam, Saginaw Valley State University, USA**

Co-CHAIR:

16:00- 17:00 (25,13,14)

16:00 - 16:20 Boundary Approximation and External Visibility
[Laxmi Gewali](#) and Samridhi Jha

16:20 - 16:40 Detection of Strictly L3-Live Structures by Structural Analysis of General Petri Net Using SAT-Solver
[Yuta Yoshizawa](#) and Katsumi Wasaki

16:40-17:00 Space Abstraction and Quasi-Home States of Petri Nets Using the Submarking Method
[Tomoki Miura](#) and Katsumi Wasaki

April 12, 2022- Tuesday

8:10 - 9:00: **Keynote by Dr. Danna Gurari, Assistant Professor, University of Colorado Boulder**
"Describing Images with AI: Challenges and Opportunities for a Real-World Application"

9:00 - 9:15: **Q&A by Audience**

Tuesday Sessions

SESSION T1: Cybersecurity and Blockchain Technology

CHAIR: [Dr. Grzegorz Chmaj, University of Nevada, Las Vegas, USA](#)

Co-CHAIR: [Doina Bein, California State University, USA](#)

9:15 – 11:15 (23, 1,7,37,29,34)

09:15 - 09:35 Novel Corporate Structure in World-Class Business, Merging Digital-Physical Environment in Hyper Famili Incorporation
[Mohammad Khakzadeh](#), [Seyed Milad Seyed Javadin](#) and [Fatemeh Saghafi](#)

09:35 - 09:55 *Performance Evaluation of Online Email and Website Safeguarding Tools Against Phishing Attacks; a comparative assessment*
[Ahmed Shatnawi](#), [Rama Al-Share](#), [Fatima Abu-Akleek](#) and [Eyad Taqieddin](#)

09:55-10:15 *Blockchain based Trust for the Internet of Things: A Review*
[Dina Shehada](#), [Maryam Amour](#), [Suadad Muammar](#) and [Amjad Gawanmeh](#)

10:15-10:35 Blockchain for Security and Privacy of Healthcare Systems: A Protocol for Systematic Literature Review
[Azemour Saadia](#), [Meryeme Ayache](#), [Hanane El Bakkali](#) and [Amjad Gawanmeh](#)

10:35-10:55 *Software optimization of RIJNDAEL for modern x86-64 platforms*
[Shay Gueron](#) and [Nir Drucker](#)

10:55-11:15 Cybersecurity Ethics Education: A Curriculum Proposal
Ping Wang

SESSION T2: Blockchain Technology, Health Informatics

CHAIR: **Dr. Khandaker Abir Rahman, Saginaw Valley State University, USA**
Co-CHAIR:

11:15 - 13:15 (28,18,58, 8,24,38)

11:15-11:35 Use of Blockchain Technology in the Electronic Health Record Management: An Analysis of the State of the Art and Practice
Henrique Couto, André Araújo, Rendrikson Soares and Gabriel Rodrigues

11:35-11:55 *Gesturing with Smart Wearables: An Alternate Way to User Authentication*
Khandaker Abir Rahman, Avishek Mukherjee and Kristina Mullen

11:55-12:15 *Single Sign-on (SSO) Fingerprint Authentication Using Blockchain*
Abhijeet Thakurdesai, Doina Bein, Wolfgang Bein, Marian Sorin Nistor and Stefan Pickl

12:15-12:35 Visualizing 3D Human Organs for Medical Training
Joshua Chen, Paul Cuaresma, Jennifer Chen, Fangyang Shen and Yun Tian

12:35-12:55 An Information Management System for the COVID-19 Pandemic Using Blockchain
Marcelo Alexandre M. Conceição, Oswaldo Segunda da C. Neto, *André B. Baccarin*, João Paulo dos S. Mendes, Luan Henrique S. Dantas, Vinícius P. Lippi, Gildarcio Sousa Goncalves, Adilson Cunha, Luiz Dias, Johnny Marques and Paulo Tasinaffo

12:55-13:15 *Abstractive Text Summarization using Machine Learning*
Aditya Dingare, Doina Bein, Wolfgang Bein and Abhishek Verma

13:15-14:00 **Break**

SESSION T3: Human-Computer Interaction

CHAIR: **Dr. Sergiu Dascalu, University of Nevada, Reno, USA**
Co-CHAIR: **Dr. Frederick C. Harris, Jr., University of Nevada, Reno, USA**

14:00 - 16:00 (17,32,35,40,44,36)

14:00-14:20 *Developing an Affective Audio Toolbox for Audio Post-Production*
Harrison Ridley, Stuart Cunningham and Rich Picking

14:25-14:40 *An Application for Interaction Comparison Between Virtual Hands and Virtual Reality Controllers*
Daniel Enriquez, Christopher Lewis, Sergiu Dascalu and Frederick Harris

14:40-15:00 *LDAT: A LIDAR Data Analysis and Visualization Tool*
Andrew Muñoz, Chase Carthen, Vinh Le, Sergiu Dascalu and Frederick Harris

15:00-15:20 *Social Media User Study*
Autumn Cuellar, Yifan Zhang, Sergiu Dascalu and Fredrick Harris Jr.

15:20-15:40 *Software Interfaces for New Vehicle Operating Cost Models Used in Economic Analysis of Transportation Investments: A User Study*
Arjun Gopinath, Hudson Lynam, Rami Chkaiban, Elie Hajj and Sergiu Dascalu

15:40-16:00 *Microservice-Based System for Environmental Science Software Applications*
Vinh Le, Connor Scully-Allison, Mitchell Martinez, Sergiu Dascalu and Frederick Harris

SESSION T4: Networks, Health Informatics

CHAIR: **Dr. Hossein Zare, Johns Hopkins University, USA**
Co-CHAIR: **Dr. Poonam Dharam, Saginaw Valley State University, USA**

16:00 - 17:20 (54,20,51,15)

16:00-16:20 *Semantic Interoperability in the Internet of Things: A Systematic Literature Review*
Pedro Lopes de Souza, Wanderley Lopes de Souza and Ricardo Rodrigues Ciferri

16:20-16:40 *IoT Machine Learning based parking management system with anticipated prediction of available parking spots*
Grzegorz Chmaj and Michael Lazeroff

16:40- 17:00 *Channel State Information Spectrum Gap Filling using Shallow Neural Networks*
Avishek Mukherjee, Beata Hejno and Manish Osti

17:00- 17:20 *Detection Method for Early-stage Colorectal Cancer Using Dual-tree
Complex Wavelet Packet Transform*
Daigo Takano and Teruya Minamoto

Session TA5: Conference Concluding Remarks (Dr. Shahram Latifi)

17:20-18:00 (2021 Awardees and Recognitions, ITNG 2023 Planning)

End of Schedule.....