



Program of The 31st Conference of Open Innovations Association FRUCT

Helsinki, Finland
27-29 April 2022



future internet

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electronics

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**GAUDEAMUS IGITUR,
JUVENES DUM SUMUS!
POST JUCUNDAM JUVENTUTEM,
POST MOLESTAM SENECTUTEM
NOS HABEBIT HUMUS.**

**UBI SUNT, QUI ANTE NOS
IN MUNDO FUERE?
VADITE AD SUPEROS,
TRANSITE AD INFEROS,
UBI JAM FUERE.**

**VITA NOSTRA BREVIS EST,
BREVI FINIETUR,
VENIT MORS VELOCITER,
RAPIT NOS ATROCITER,
NEMINI PARCETUR.**

**VIVAT ACADEMIA,
VIVANT PROFESSORES!
VIVAT MEMBRUM QUODLIBET,
VIVANT MEMBRA QUÆLIBET!
SEMPER SINT IN FLORE!**

**VIVANT OMNES VIRGINES
FACILES, FORMOSÆ!
VIVANT ET MULIERES,
TENERÆ, AMABILES,
BONÆ, LABORIOSÆ!**

**VIVAT ET RESPUBLICA,
ET QUI ILLAM REGIT!
VIVAT NOSTRA CIVITAS,
MÆCENATUM CARITAS,
QUÆ NOS HIC PROTEGIT**

**PEREAT TRISTITIA,
PEREANT DOLORES,
PEREAT DIABOLUS,
QUIVIS ANTIBURSCHIUS,
ATQUE IRRISORES!**

Practical Information

Due to COVID-19, the majority of the FRUCT31 conference participants prefer online participation. Correspondingly the conference processes are adapted to best fit for online participation. All conference presentations are pre-recorded by the authors and uploaded to Youtube. The conference program contains links to individual presentations and playlists of all talks for each session. All conference sessions consist of two modules:

- 1) **Self-watching of the presentations on Youtube.** You are welcome to use the advantages of online participation and freely manage your time. You can ask questions in the comments of the videos. Please subscribe to the FRUCT youtube channel as it will help us to organize video streaming in the future.
- 2) **Questions and Answers (Q&A) in Zoom.** Zoom links are in the conference program. We recommend joining a Zoom session in audio mode (without video). Please prepare your questions/comments to the authors and use this time to discuss the presented works.

The conference time is EEST (GMT+3), which corresponding to Finnish time zones. The conference program consists of two parallel tracks. Each track uses its Zoom ID (the corresponding Zoom credentials are published in the conference program). The Q&A sessions are scheduled with minimal overlapping. So you can take part in most of the Q&A sessions of the parallel tracks. For that, please watch video presentations beforehand, and don't forget to change Zoom telcos for changing the sessions. Please note that all conference presentations (except for keynote talks and demos) will be available online starting from Monday, April 25, 2022. If you have any further questions don't hesitate to email us at info@fruct.org.

Authors of the selected conference papers get an invitation to publish an extended version of the paper in our partner journals. If you are interested in this opportunity, please express it clearly to the chair of your session. The list of partner journals is as follows:

An official publication of
the Information Resources
Management Association



IGI PUBLISHING
WWW.IGI-GLOBAL.COM

INTERNATIONAL JOURNAL OF Embedded and Real-Time Communication Systems

Authors of the best papers of FRUCT conference can get invitation to **FREE of charge** publish extended version of the paper in the International Journal of Embedded and Real-Time Communication Systems (IJERTCS) (ISSN 1947-3176, **Scopus** indexing, etc.).



electronics
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Authors of the best papers of FRUCT conference can get invitation to publish extended version of the paper in the Electronics journal (ISSN 2079-9292, Q2, Scopus indexing, Impact Factor: 2.397 (2020), 5-Year Impact Factor: 2.408 (2020), etc.) with **discount of 20% or even more**.



future internet
an Open Access Journal by MDPI

Authors of the best papers of FRUCT conference can get invitation to publish extended version of the paper in the Future Internet journal (Sitiescore 4.1 Scopus, Q2) with **discount of 20%**. Moreover, all authors of the 31st FRUCT conference are welcome to submit the extended versions of the conference papers to the [Special Issue of the Future Internet journal](#) ([twitter](#), [LinkedIn](#)).

The proceedings of 31st FRUCT conference are available online:

Issue 1: <https://fruct.org/publications/fruct31/>

Issue 2: <https://fruct.org/publications/acm31/>

General Facts and Statistics for the 31st FRUCT Conference:

Total submissions: **123**

Accepted Full Papers: **48**

Acceptance rate: **39%**

Total authors: **245** from **25** countries

Organization Committee of the 31st FRUCT

Conference Chair: Sergey Balandin

Publishing team leader: Tatiana Shatalova

Program Committee

| | | | |
|----------------------------|-----------------------|----------------------------|---------------------|
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Program of the 31st FRUCT conference

April 27-29, 2022, Helsinki, Finland

Helsinki, Finland / Online participation by Youtube + Zoom

NOTE: The conference time is Finnish time (EEST, GMT+3) as conference is held in Helsinki, Finland

| DATE | TIME | PROGRAM | |
|-------------|--|--|--|
| 27.04.22 | 13:45-15:15 | Opening of the 31st FRUCT conference Keynote talk: Automated Machine Learning and Machine Learning Services , by Heli Helskyaho, Miracle Oy, Finland | |
| | 15:15-15:30 | Break | |
| | 15:30-17:00 | Computer Vision, Image and Video Processing | The 4th DataWorld workshop 1: Database Performance & Applications |
| | 17:00-17:30 | | |
| 28.04.22 | 10:00-11:15 | Networking and Robotics Applications | Software Design and Innovative Applications |
| | 11:15-11:45 | | The 4th DataWorld workshop 2: Data Analysis |
| | 11:45-12:45 | Artificial Intelligence Applications | |
| | 12:45-13:15 | Lunch break | |
| | 13:15-13:45 | Lunch break | |
| | 13:45-14:15 | Lunch break | |
| | 14:15-15:00 | Security and Privacy | The 4th DataWorld workshop 3: Machine Learning, Mining in Cloud |
| | 15:00-15:45 | | Innovative Applications on the Internet of Things |
| | 15:45-17:00 | Natural Language Processing and Speech Technologies | |
| | 17:00-17:15 | Break | |
| 17:15-18:00 | Open floor discussion + Posters | | |
| 29.04.22 | 10:00-12:00 | Algorithms and Modeling | |
| | 12:00-12:15 | Official closing of the 31st FRUCT conference | |

Thank you and looking forward to see you at the 32nd FRUCT conference on 9-11 November 2022!

Program of the 31st FRUCT conference

April 27 (Wednesday)

Helsinki, Finland / Online participation by Youtube + Zoom

NOTE: The conference time is Finnish time (EEST, GMT+3) as conference is held in Helsinki, Finland

| | | |
|---|--|---|
| Session: Opening and Plenary session of the 31st FRUCT conference | | Chairman: Sergey Balandin |
| Playlist: https://www.youtube.com/watch?v=cNImFrLbaKg&list=PLKIZJpq1JqdNsN2ZXK74R6ka8a4PpDdG | | |
| 13:45 | 10m | Welcome words and practical information , by Sergey Balandin, FRUCT, Finland |
| 13:55 | 5m | Addressing and invitation from the Future Internet journal , by Christina Tan, MDPI, Switzerland |
| 14:00 | 55m | Keynote talk: Automated Machine Learning and Machine Learning Services , by Heli Helskyaho, Miracle Oy, Finland |
| 14:55 | 20m | Q&A for the keynote talk , Zoom 280-192-1973, passcode 535851 |
| 15:15 | 15m | Break |
| 15:30 | Session: Computer Vision, Image and Video Processing Chairman: Nikolay Shilov Playlist: https://www.youtube.com/watch?v=Js4ZE6zcOYo&list=PLKIZJpq1JqdNiKYMJLjH7oLN4aJs8FbMH | |
| | Session: The 4th DataWorld workshop 1: Database Performance & Applications Chairman: Marek Kvet Playlist: https://www.youtube.com/watch?v=woOsK_ocGOg&list=PLKIZJpq1JqdMNZTkF8vp-6Rp-z6GzCpmN | |
| 15:30 | 1h | TrashBox: Trash Detection and Classification Using Quantum Transfer Learning , by Nikhil Kumsetty, Amith Nekkare, Sowmya Kamath, Anand Kumar |
| | | Survey of Approaches to Non-Realistic Neural Style Transfer , by Arina Varlamova, Victor Kitov |
| 15:30 | 1h | SUST-DDD: A Real-Drive Dataset for Driver Drowsiness Detection , by Esra Kavalci Yilmaz, M. Ali Akcayol |
| | | Enhancing Human Pose Estimation With Privileged Learning , by Alexander Marusov, Mariam Kaprielova, Radoslav Neychev |
| 15:30 | 1h | Smart Communication System Using Sign Language Interpretation , by Divyansh Bisht, Manthan Kojage, Manu Shukla, Yash Patil, Priyanka Bagade |
| | | JSON SPARQL Application Profile for Linked Data , by Elisa Riforgiato, Luca Roffia, Andrea Ferrari |
| 15:30 | 1h | Depth and Image Fusion for Road Obstacle Detection Using Stereo Camera , by Oleg Perezyabov, Mikhail Gavrilentov, Ilya Afanasyev |
| | | Generating Visualizations of Ontologies in the Logic Graphs Language , by Vasilii Kuryshev, Ildar Baimuratov, Vladislav Shmatkov, Dmitry Mouromtsev |
| 15:30 | 1h | Online Retailing and Shopping: An Academical Simulation to Databases , by Michal Kvet, Jozef Stasko |
| | | Performance Analysis of the Database of Telecommunications , by Michal Kvet, Linda Majeriacikova |
| 15:30 | 1h | Applications for Monitoring and Visualizing Events From the Cloud or Fog Environment , by Nataly Zhukova, Alexey Subbotin |
| | | Q&A in Zoom with authors of The 4th DataWorld workshop 1: Database Performance & Applications track , Zoom 280-192-1973, passcode 535851 |
| 16:30 | 30m | Q&A in Zoom with authors of the Computer Vision, Image and Video Processing session , Zoom 974-238-2704, passcode 490571 |
| 17:00 | 30m | Closing of Day |
| 17:30 | | Closing of Day |

April 28 (Thursday)

Helsinki, Finland / Online participation by Youtube + Zoom

NOTE: The conference time is Finnish time (EEST, GMT+3) as conference is held in Helsinki, Finland

| | | | |
|-------|--|---|--|
| 10:00 | Session: Networking and Robotics Applications Chairman: Andrew Ponomarev Playlist: https://www.youtube.com/watch?v=xRAa-LJAKdY&list=PLKIZJpq1JqdPnngbqV8PHJntMxuRCmyQ- | | Session: Software Design and Innovative Applications Chairman: Nikolay Teslya Playlist: https://www.youtube.com/watch?v=DT6R5jxpr6M&list=PLKIZJpq1JqdPT4QU8oDdTGswL4hbc-zl |
| 10:00 | 50m | BCube Connected Crossbar and GBC3 Network Architecture: An Overview , by Antonio Cortes Castillo Algorithm for Containers Persistent Volumes Auto-Scaling in Kubernetes , by Igor Konev, Igor Nikiforov, Sergey Ustinov Improving Recovery Block Method for More Reliable Client-Server Communication , by Daniil Ageev, Nikita Voinov Transformer-Based Deep Monocular Visual Odometry for Edge Devices , by Anton Klochkov, Ivan Drokin Manipulator Motion Tracking System Architecture , by Grigorij Rego, Nikita Bazhenov, Ludmila Schegoleva | Automated Testing and Resilience of Microservice's Network-Link Using Istio Service Mesh , by Rupesh Raj Karn, Rammi Das, Dibakar Raj Pant, Jukka Heikkonen, Rajeev Kanth Mobile Application: A Serious Game Based in Gamification for Learning Mathematics in High School Students , by Diego Castillo, Willington Ortiz, Lenis Wong Development of a Model of Design Thinking Hybrid Implementation in the Post-Pandemic World , by Yulia Bolshakova, Victor Taratukhin Forecasting Efficiency of Programs and Optimization of Local Budgets in Smart Cities for a Better Quality of Life , by Oleg Pakhomov, Oleg Metsker, Georgy Kopanitsa, Egor Trofimov |
| 10:50 | 25m | SRAM Design Issues and Effective Panacea at Different CMOS Technology Nodes , by Manoj Sharma, Apaar Gupta, Vishal Goyal | Q&A in Zoom with authors of the Software Design and Innovative Applications session , Zoom 280-192-1973, passcode 535851 |
| 11:15 | 30m | Q&A in Zoom with authors of the Networking and Robotics Applications session , Zoom 974-238-2704, passcode 490571 | |
| 11:45 | Session: Artificial Intelligence Applications Chairman: Alexander Smirnov Playlist: https://www.youtube.com/watch?v=0qz2Qm1VgWI&list=PLKIZJpq1JqdPZUXqd2KT4k40-acADHKxw | | Session: The 4th DataWorld workshop 2: Data Analysis Chairman: William Steingartner Playlist: https://www.youtube.com/watch?v=XtasZi69adM&list=PLKIZJpq1JqdM-jpiR3gCUUHQ4vDUigP1S |
| 11:45 | 30m | AGBoost: Attention-Based Modification of Gradient Boosting Machine , by Andrei Konstantinov, Lev Utkin, Stanislav Kirpichenko Multiple Instance Learning Through Explanation by Using a Histopathology Example , by Andrei Konstantinov, Lev Utkin | Police Force - Traffic Accidents , by Michal Kvet, Marek Kvet, Branislav Dupák, Ján Dunaj, Lucia Konštiaková Efficient Grocery Shopping Using Geolocation and Data Mining , by Myrella Aliaga-Vasquez, Reyna Bramon-Ayllon, Willy Ugarte Shopping Basket Analysis for Mining Equipment: Comparison and Evaluation of Modern Methods , by Egor Nikitin, Alexey Kashevnik, Nikolay Shilov Towards Intelligent Train Control Systems , by Evelina Pencheva, Ventsislav Trifonov, Ivaylo Atanasov Methodology for In-The-Wild Driver Monitoring Dataset Formation , by Alexandr Bulygin, Alexey Kashevnik |

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|-------|-----|---|--|
| 12:15 | 30m | <p>Maintaining Vehicle Driver's State Using Personalized Interventions, by Kirill Uvarov, Andrew Ponomarev</p> <p>Applying Semantic Computing for Health Care Professionals: the Timing of Intervention is the Key for Successful Rehabilitation, by Linda Karoliina Nieminen, Jari Juhani Vuori, Harri Juhani Ketamo, Markku Juhani Kankaanpaa</p> <p>Meta-Learning and Fast Adaptation for Head Pose Estimation, by Manoj Joshi, Dibakar Raj Pant, Rupesh Raj Karn, Jukka Heikkonen, Rajeev Kanth</p> | <p>Q&A in Zoom with authors of The 4th DataWorld workshop 2: Data Analysis session, Zoom 280-192-1973, passcode 535851</p> |
| 12:45 | 30m | <p>Q&A in Zoom with authors of the Artificial Intelligence Applications session, Zoom 974-238-2704, passcode 490571</p> | <p>Lunch break</p> |
| 13:15 | 30m | <p>Lunch break</p> | |
| 13:45 | 30m | <p>Lunch break</p> | <p>Session: The 4th DataWorld workshop 3: Machine Learning, Mining in Cloud Chairman: Michal Kvet Playlist: https://www.youtube.com/watch?v=FgjqE_v_iVGM&list=PLKIZJpq1JqdNOAmTso4ZGL1Rn6Na960vh</p> <p>Active Learning to Find the Key to Unlock Your Laptop, by Marian Queiruga-Dios, Farrah Kristel Batista Guerra, Maria Jesus Santos Sanchez, Araceli Queiruga-Dios</p> <p>Mouse Dynamics Analysis Using Machine Learning to Prevent Account Stealing in Web Systems, by Alexey G. Marakhtanov, Evgeny O. Parenchenkov, Nikolai V. Smirnov</p> <p>Deep Learning for Handwriting Text Recognition: Existing Approaches and Challenges, by Samah Mohammed, Nikolay Teslya</p> <p>Modelling Investment Programs with Machine Learning and Data Mining: Descriptive and Predictive Models of Healthcare State Programs in Russia, by Aleksandr Gerasimov, Egor Trofimov, Georgy Kopanitsa, Oleg Metsker</p> |
| 14:15 | | <p>Session: Security and Privacy Chairman: Sandeep Tamrakar Playlist: https://www.youtube.com/watch?v=zY42dTGe4k&list=PLKIZJpq1JqdPs75RF6i33YdpP_GL-Khg</p> | |
| 14:15 | 20m | <p>Key Sharing Protocol Using Exchange by Integers Over Public Noiseless Channels Between Users that Provides Security without Cryptographic Assumptions, by Valery Korzhik, Viktor Yakovlev, Milena Akhmetshina, Aleksei Zhuvikin</p> <p>Self-Sovereign Identity in University Context, by Araceli Queiruga-Dios, Juan J. Bullon Perez, Luis Hernandez Encinas</p> | |
| 14:35 | 25m | <p>Privacy-Friendly Discovery of Common Friends in P2P Networks, by Tommi Meskanen, Jarkko Kuusijarvi, Sara Ramezani, Valtteri Niemi</p> <p>Towards Interoperable Enclave Attestation: Learnings From Decades of Academic Work, by</p> | <p>Q&A in Zoom with authors of The 4th DataWorld workshop 3: Machine Learning, Mining in Cloud session, Zoom 280-192-1973, passcode 535851</p> |

| | | | |
|-------|-----|--|--|
| 15:00 | 15m | Arto Niemi, Sampo Sovio, Jan-Erik Ekberg Processing of Unstructured Information About Software Vulnerabilities , by Daniela-Kler Nkodia, Alexander Menshchikov, Dmitriy Tatarov | Session: Innovative Applications on the Internet of Things Chairman: Dmitry Korzun Playlist: https://www.youtube.com/watch?v=Z7DYW4DV86c&list=PLKIZJpg1JqdODvnc5oJaUD8vXZ3YG0GKX |
| 15:15 | 30m | Q&A in Zoom with authors of the Security and Privacy session , Zoom 974-238-2704, passcode 490571 | Towards Lightweight Authorisation of IoT-Oriented Smart-Farms Using a Self-Healing Consensus Mechanism , by Steph Rudd, Hamish Cunningham IoT Watercare: Water Quality Control System in Unofficial Settlements of Peru Based in an IoT Architecture , by Juanelv Salgado, Cesar Pizarro, Jose Castillo, Lenis Wong Methane and Hydrogen Gas Calibration Device for Medical Breath Test , by Nikita Fadeev, Oleg Medvedev, Valery Krivetsky, Peter Luzhnov |
| 15:45 | | Session: Natural Language Processing and Speech Technologies Chairman: Ksenia Lagutina Playlist: https://www.youtube.com/watch?v=JpcUXTGUd4Y&list=PLKIZJpg1JqdNGpRVPKWCwvmro3kTXg267 | An Intrusion Detection System Using GA and SVM Classifier for IoTs , by Nilesh Kunhare, Ritu Tiwari, Joydip Dhar |
| 15:45 | 35m | Comparative Analysis of Automatic POS Taggers Applied to German Learner Texts , by Irina Kotiurova, Polina Trenina Personalizing Dialogue Agents for Russian: Retrieve and Refine , by Pavel Posokhov, Kirill Apanasovich, Anastasia Matveeva, Olesia Makhnytkina, Anton Matveev Topical Text Classification of Russian News: A Comparison of BERT and Standard Models , by | Artificial Intelligence in the IoT Era: A Review of Edge AI Hardware and Software , by Tuomo Sipola, Janne Alatalo, Tero Kokkonen, Mika Rantonen Exhibition Area Digitalization Using IoT Sensorics and Application to Smart Tourism Services , by Dmitry Korzun, Alexandr Semenov, Sergey Balandin The Ontology Driven Indoor Positioning System Based on BLE Beacon Localization , by Maksim Shchekotov, Alexander Smirnov |
| 16:20 | 30m | Ksenia Lagutina Analysis of Self-Presentation Models of Social Networks Users: Intergenerational Differences , by Boris Nizomutdinov, Anna Uglova, Irina Sapon Topic Modeling of Literary Texts Using LDA: On the Influence of Linguistic Preprocessing on Model Interpretability , by Tatiana Sherstinova, Anna Moskvina, Margarita Kirina, Asya Karysheva, Evgenia Kolpaschikova, Irina Zavyalova, Polina Maksimenko, Alena Moskalenko | <p style="text-align: center;"> Q&A in Zoom with authors of Innovative Applications on the Internet of Things session, Zoom 280-192-1973, passcode 535851 </p> |
| 16:50 | 10m | Q&A in Zoom with authors of the Natural Language Processing and Speech Technologies session , Zoom 974-238-2704, passcode 490571 | |
| 17:00 | 15m | | Break |
| 17:15 | 45m | The conference meetup in Zoom: Open floor discussion + Posters: - Optimizations of searching three-dimensional trees for clustering (poster) , by Karolis Ryselis - On premises, virtual, cloud solutions and a new network design paradigm , by Vladimir Sayenko Zoom 280-192-1973, passcode 535851 | |

April 29 (Friday)

Helsinki, Finland / Online participation by Youtube + Zoom

NOTE: The conference time is Finnish time (EEST, GMT+3) as conference is held in Helsinki, Finland

| | | |
|--------------|-----|---|
| 10:00 | | Session: Algorithms and Modeling Chairman: Alexey Kashevnik Playlist: https://www.youtube.com/watch?v=KgZsgq6IZbs&list=PLKIZJpq1JqdOnCYIJshF1vdRLeV1OF_bQ |
| 10:00 | 80m | Multidimensional Blockchain as Robust Distributed Ledger , by Ilya Shilov, Danil Zakoldaev Concept and Models of Information Application for Actions in Systems , by Alexander Geyda, Igor Lysenko, Dmitry Khasanov, Aleksandra Svistunova, Lyudmila Fedorchenko, Usin Valeriy Algorithm of the Hybrid Transformation Method for Modeling Dynamic Systems , by Sergei Ivanov, Tatiana Zudilova, Nikita Osipov, Lubov Ivanova Stability Enhancement of Single Machine Infinite Bus System With UPFC Using Bat Algorithm , by Mir Fahim Ul Haque, Md. Rashidul Islam, Md Shafiullah, Md. Saber Hossen Robust Design of PSS for Multimachine Networks Using Jellyfish Search Algorithm , by Md. Samiul Azam, Md. Rashidul Islam, Md Shafiullah, Mohammad Saiful Islam Adjustment of Fuzzy Cooperative Game for Hospitalization Strategy Selection Based on a Genetic Algorithm , by Alexander Smirnov, Nikolay Teslya Joint Mid-Term Forecast of Cryptocurrencies in a Technics of Inductive Modelling (On Example of XRP, Waves, ETH) , by Bulat Bayburin, Pavel Mogilev, Mikhail Alexandrov, John Cardiff, Olexiy Koshulko |
| 11:20 | 40m | Q&A in Zoom with authors of the Algorithms and Modeling session , Zoom 280-192-1973, passcode 535851 |
| 12:00 | 15m | Official closing of the 31st FRUCT conference , Zoom 280-192-1973, passcode 535851 |

FOR NOTES

The 31st Conference of Open Innovations Association FRUCT

Program

Helsinki, Finland
27-29 April 2022

A special word of thanks goes to the
*IEEE Finland, IEEE ComSoc, Electronics MDPI journal and Future
Internet MDPI journal for sponsoring the conference; and to
certifyme.online as an e-Badge partner of the conference.*

CALL FOR PARTICIPATION

The 32nd Conference of Open Innovations Association FRUCT

9-11 November 2022



Overview

FRUCT conference is a high-quality scientific event for meeting academia and business people and setting projects. The average conference is attended by 150+ participants from academia and industry. The average **acceptance rate is 40%**. Traditionally the conference attracts most active and talented students to present their R&D projects, meet interesting colleagues, create new teams, and find employers and investors. The conference invites the world-class academic and industrial experts to lecture on the hottest topics. We welcome everybody to submit papers and take part in the conference, present your research results. Due to COVID-19 situation the FRUCT conference **allows both onsite and online participation**.

The conference offers low registration fee. FRUCT doesn't offer deadline extension, but **we offer the Early-bird submission** with the additional review cycle. For further details please refer to <http://www.fruct.org/cfp32>.

List of conference topics

- ✓ Artificial Intelligence, Robotics and Automation Systems
- ✓ Location Based Services: Navigation, Logistics, e-Tourism
- ✓ Big Data and Data Mining, Data Storage and Management
- ✓ Open Source Mobile OS: Architectures and Applications
- ✓ Cloud Computing Systems, Networks and Applications
- ✓ Wearable-Computing Novel Architectures and Solutions
- ✓ Security and Privacy: Applications and Coding Theory
- ✓ Relational databases, Spatial databases, SQL tuning
- ✓ Natural Language Processing, Speech Technologies
- ✓ Internet of Things and Enabling Technologies
- ✓ Network Technologies, Next Generation Networks, Emerging Wireless Technologies, 5G
- ✓ Bioinformatics, e-Health and Wellbeing
- ✓ Smart Spaces, Linked Data and Semantic Web
- ✓ Knowledge and Data Managements Systems
- ✓ Context Awareness and Proactive Services
- ✓ Sensor Design, Ad-hoc and Sensor Networking
- ✓ Software Design, Innovative Applications
- ✓ Smart Systems and Embedded Networks
- ✓ Computer Vision, Image and Video Processing
- ✓ Crowdsourcing and Collective Intelligence
- ✓ Intelligence, Social Mining and Web
- ✓ Simulation platforms for Drone Applications
- ✓ Drones and IoT convergence

Call for papers

Depending on the type and maturity level please submit your work into one of the following 3 categories:

1. **Full paper** (min 6 full pages, max 12 pages) **OR** 2. **Short paper** (min 2 pages, max 6 pages)

Submission deadline: 16 September 2022 **Early-bird deadline: 19 August 2022**

Notification of acceptance: **7 October 2022**

Camera-ready deadline: **14 October 2022**

3. **Poster / Demo proposal:** submission deadline: **1 November 2022**

Publication

All submitted Full Papers will be peer reviewed by the technical committee. Accepted Full papers and extended abstracts are published in the proceeding of FRUCT conference (ISSN 2305-7254). The accepted Full Papers will be included to **IEEE Xplore (application is pending)** and **DOAJ**, indexed by **Scopus**, **ACM**, **Web of Science**, **RSCI**, **DBLP**, etc. The conference proceedings are included in **AMiner**, **CORE**, and **Scimago Journal Rank (SJR)** <http://scimagojr.com/journalsearch.php?q=21100305223&tip=sid>. The selected papers get invitations to publish extended versions of the papers in the partner journals, e.g., **IJERTCS**. FRUCT is **rated by many national systems**, e.g., **Finnish (JUFO=1, ID: 72707)**, **Norwegian (NSD=1)**, **Danish (BFI=1, ID: 8782540)**.

Contacts

Paper templates, conference news and other relevant details are available at <http://www.fruct.org/conference32>. If you get some questions that are not covered at the conference web page, feel free to send email to info@fruct.org.