

Making the Most of IEEE Xplore

Consortium of Romania

27 October 2020

Welcome and thank you for joining us!

The IEEE Today

1884 1912 1963 Present



Our Mission

The core purpose of IEEE is to foster technological innovation and excellence for the benefit of humanity.

Our Vision

IEEE will be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions.

RESPONDING TO TODAY'S PANDEMIC:

IEEE eLearning Library Free to Universities

Complimentary Access until 30 June 2020

To help universities with the immediate need for distance learning, IEEE is now offering our academic customers free access to our entire library of eLearning courses.

IEEE eLearning Library

With hundreds of online courses in engineering and technology, available through IEEE *Xplore* Digital Library, students can learn from leading experts in fields such as Artificial Intelligence, 5G, Autonomous Vehicles, IoT, Cyber Security. These courses can be taken from any device with an internet connection, making it easy for students to keep learning, wherever they are. The full collection can be found at <https://ieeexplore.ieee.org/courses/home>

To sign up for access: https://forms1.ieee.org/IEEE-eLearning-Promo-2020.html?LT=LG_EC_3.2020_CU_IEEE_eLearning_Promotion



Above: Attendees of the IEEE Future Leaders Forum 2018 – IEEE-USA's two-day flagship event

Covid-19 Related Research Now Free to Access in IEEE *Xplore*

IEEE realizes that many of our IEEE *Xplore* users are directly or indirectly engaged in the fight against COVID-19 and its effects on global health and safety, research, infrastructure, communications, and more.

IEEE has identified articles from the IEEE *Xplore* digital library that may help researchers understand and manage different aspects of the COVID-19 pandemic and technologies that can be leveraged to combat it.

All content in this collection is now free to access for the duration of the global health crisis, with additional rights for all types of reuse, including full text and data mining, and analysis.

We are continually monitoring the developments and will update the content of this page periodically.

IEEE *Xplore*[®] | News center
Digital Library

COVID-19 Related Research Now Free to Access in IEEE *Xplore*

March 30, 2020 | Tags: COVID-19, COVID-19 in IEEE Xplore, COVID-19 research



IEEE realizes that many of our IEEE *Xplore* users are directly or indirectly engaged in the fight against COVID-19 and its effects on global health and safety, research, infrastructure, communications, and more. IEEE has identified articles from the IEEE *Xplore* digital library that may help researchers understand and manage different aspects of the COVID-19 pandemic and technologies that can be leveraged to combat it.

All content in this collection is now free to access for the duration of the global health crisis, with additional rights for all types of reuse, including full text and data mining, and analysis. We are continually monitoring the developments and will update the content of this page periodically. If researchers are unable to access an article that could be important in understanding or addressing the COVID-19 virus, please contact IEEE at onlinesupport@ieee.org.

[View Articles](#)

Visit IEEE Xplore and click on the Covid-19 banner

The screenshot shows the IEEE Xplore website interface. At the top, the navigation bar includes the IEEE Xplore logo, menu items for 'Browse', 'My Settings', and 'Help', and an 'Institutional Sign In' link. The main header area features the slogan 'Advancing Technology for Humanity' and a search bar displaying '5,147,068 ITEMS'. Below the search bar are buttons for 'ADVANCED SEARCH' and 'TOP SEARCHES'. A prominent banner at the bottom of the page is titled 'Free access to COVID-19 related research' and includes a 'View Articles' button. The banner also features a small image of a coronavirus particle.

<https://ieeexplore.ieee.org>

IEEE Electronic Library (IEL)

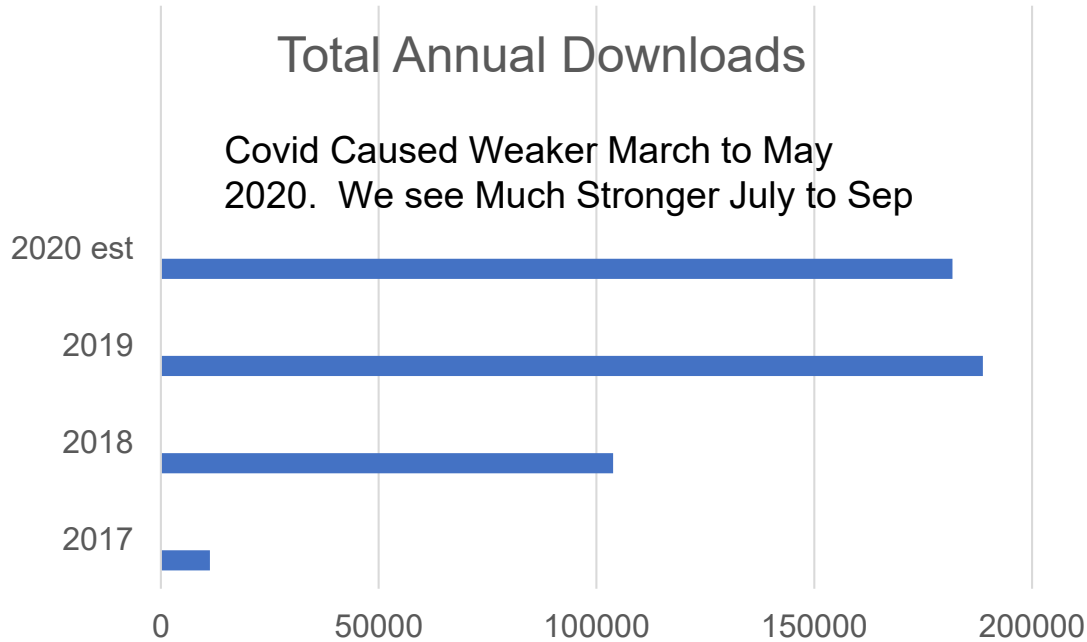
IEL is the single source for more than 30% of the world's current literature in electrical engineering, electronics, and computer science. Through IEL users can access:

- More than 25 full years of IEEE journals, conference proceedings, and standards (back to 1988)
- Over 5 million documents available in 2020
- 195 IEEE journals, magazines, and transactions
- More than 25 IET conferences
- Access to the archive of Nokia *Bell Labs Technical Journal* along with all prior Alcatel-Lucent journals
- Proceedings from more than 1,800 IEEE conferences from around the world
- 4,400+ IEEE standards documents

- **Plus the MIT Press eBooks Library – Perpetual Access!**
- The library offers online access to approximately 780 titles in fields including computer science, artificial intelligence, information theory, computer programming, information technology, and electrical engineering, broadening the research available to your organization in one platform.



Usage Statistics



2019 Usage



IEEE Quality Makes an Impact

- Latest studies reinforce that the top cited publications in the world are from IEEE*
 - All of the top 20 journals in EE
 - 18 of the top 20 journals in Telecommunications
 - 3 of the top 5 journals in Artificial Intelligence
- Cited in patents 3x more than any other publisher**
- Recent user studies demonstrate that users rely on IEEE *Xplore* to:
 - Increase productivity
 - Save time by not reinventing the wheel
 - Keep up-to-date on emerging technologies



* Based on the Clarivate Analytics Journal Citation Report study released June 2019

** Source: 1790 Analytics

More info: www.ieee.org/citations and www.ieee.org/patentcitations

Technology leaders rely on IEEE 5.1 million+ publication documents in IEEE Xplore

Only Journals are OA eligible

IEEE Journals, Transactions & Magazines—The top-cited titles in the fields of electrical engineering and computing— approximately 200 in all.

1.28 million

IEEE Conference Proceedings—Cutting-edge papers presented at IEEE conferences globally featuring the latest research, often published before many leading journals

3.6 million

IEEE Standards—Quality product and technology standards used by worldwide industries and companies to ensure safety, drive technology, and develop markets. over 1,250 active standards and more than 700 standards under development

10,500

IEEE Educational Courses—Over 400 IEEE educational online learning courses, plus IEEE English for Engineering. New courses in Blockchain, 5G, IoT, and more!

500

eBooks Collections —Six eBook collections now available: 4,000+ eBooks from IEEE-Wiley eBooks Library, MIT Press eBooks Library, Morgan & Claypool Synthesis eBooks Library, Now Publishers Foundations and Trends® Technology eBooks Library, and SAE eBooks Library.

47,000

Approximate counts from IEEE Xplore March 2020

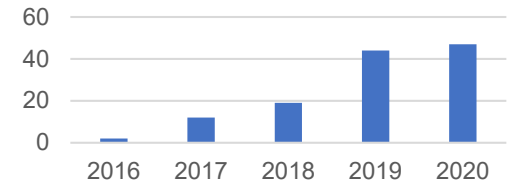
IEEE Author Growth

- Access to IEEE content helps increase boost the scholarly productivity of an institution and authorship overall
- In 2010, there were **7,572** articles in IEEE *Xplore* by authors from Romania
- In 2020, there are **23,432** articles by authors from Romania
- In the period from 2010–2020 more than 3 times more articles were published by authors from Romania
- IEEE Xplore includes 132 Open Access articles by authors from Romania

89 from them in

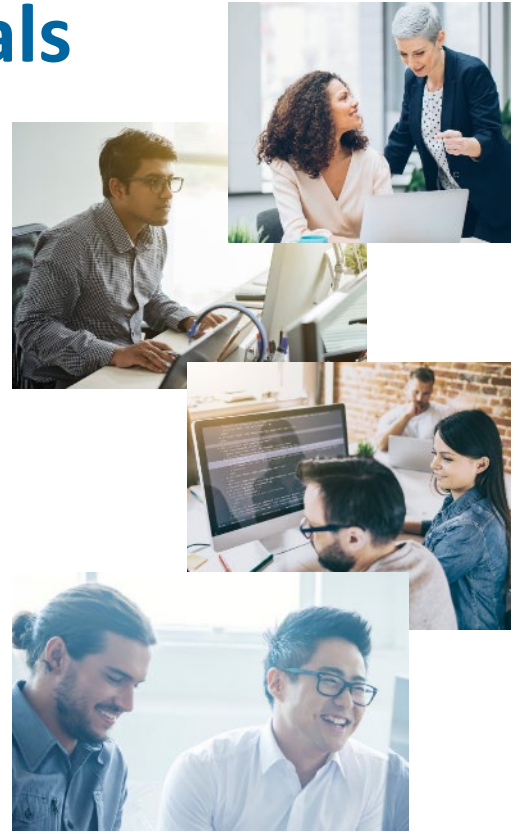
IEEE Access[®]
Multidisciplinary : Rapid Review : Open Access Journal

OA growth Romania



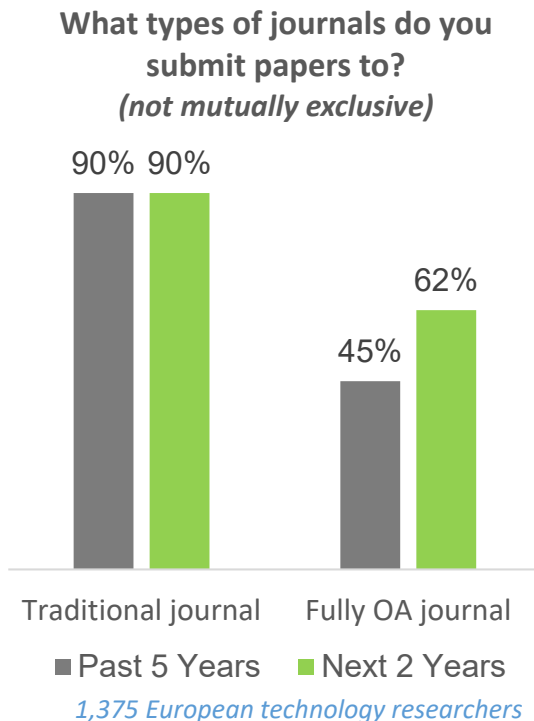
IEEE Publications Strategy and Goals

- **IEEE strives to support all authors and readers globally.** That means being able to offer any author a publication venue that is compliant with their circumstances, regardless of their funding status, the publishing mandates, or where in the world they may work.
- **Open access is one part of the larger open science movement** to make scientific research and data accessible to all. The research community is looking to speed up the process from lab discovery to an application of that research.
- **IEEE is working to enable that change** by creating better tools, services, and publication opportunities for authors and researchers.



Focusing on Author Preference

Market studies of European technology research authors show expectation to write **both** traditional and Open Access articles




- IEEE has redoubled its efforts to be the **destination of choice** for authors and to serve the author and research community, regardless of whether the author wishes to publish in a traditional journal or in a fully open access venue.
- This aligns with IEEE's mission to **foster technological innovation and excellence for the benefit of humanity** and with IEEE's core value to be a **trusted and unbiased source of technical information**, for technical dialogue and collaboration.

Source: IEEE/IET Study on Researcher Behavior: Current and Future Trends, 2017"

Subscribed Content Continues to Grow in IEEE Xplore

Open Access option is available only in IEEE journals, not in conferences

	New IEL Subscribed Documents	Growth in IEL Subscribed Documents	Total New IEEE Open Access Documents	OA Portion of Total New IEEE Documents
2019*	277,222	↑ 4.1%	20,113	6.7%
2018	266,233	↑ 3.3%	10,473	3.8%
2017	257,786	↑ 2.7%	6,655	2.5%
2016	250,934	↑ 3.8%	3,024	1.2%
2015	241,832	↑ 5.8%	2,238	0.9%
2014	228,519	↑ 3.0%	2,722	1.2%



Included in IEL **Not included in IEL**

* IEL content defined as IEEE & IET journals,, conference and standards documents exclusively available to subscribers.
Source: IEEE Xplore queries April 2020. Includes sponsored conference content in queue for posting.

IEEE now has 21 fully Gold OA journals in the portfolio

In addition, there is a Gold Open Access option for an additional 140 journals

IEEE Access

IEEE Journal of the Electron Devices Society

*IEEE Journal on Exploratory Solid-State
Computational Devices and Circuits*

Flipped! *IEEE Journal of Selected Topics in Applied
Earth Observations and Remote Sensing*

*IEEE Journal of Translational Engineering in
Health & Medicine*

*Newly
Scoped!* *IEEE Open Access Journal of Power and
Energy*

New! *IEEE Open Journal of Antennas and
Propagation*

New! *IEEE Open Journal of Circuits and Systems*

New! *IEEE Open Journal of the Communications
Society*

New! *IEEE Open Journal of the Computer Society*

New! *IEEE Open Journal of Engineering in Medicine
and Biology*

New! *IEEE Open Journal of the Industrial Electronics
Society*

New! *IEEE Open Journal of Industry Applications*

New! *IEEE Open Journal of Intelligent
Transportation Systems*

New! *IEEE Open Journal of Nanotechnology*

New! *IEEE Open Journal of Power Electronics*

New! *IEEE Open Journal of Signal Processing*

New! *IEEE Open Journal of Solid-State Circuits*

New! *IEEE Open Journal of Vehicular Technology*

New! *IEEE Photonics Journal*

New! *IEEE Transactions on Quantum Engineering*

All of IEEE's new fully Gold OA journals, existing OA journals, and IEEE Access

Plan S Requirement

All publications must be published under an open license, preferably the Creative Commons Attribution license (CC BY)	<input checked="" type="checkbox"/>
When Open Access publication fees are applied, they must be commensurate with the publication services delivered	<input checked="" type="checkbox"/>
The journal/platform must provide, on its website, a detailed description of its editorial policies and decision-making processes.	<input checked="" type="checkbox"/>
No reliance on hybrid journals (subscription journals with a Gold OA option) or mirror journals (OA journals using essentially the same or similar Editorial Boards as the subscription journal)	<input checked="" type="checkbox"/>
Use of persistent identifiers (PIDs) for scholarly publications, such as DOI	<input checked="" type="checkbox"/>
Deposition of content with a long-term digital preservation or archiving program	<input checked="" type="checkbox"/>
High-quality article level metadata in standard interoperable non-proprietary format	<input checked="" type="checkbox"/>

IEEE Introduces a New OA Administration System

Now available to all IEEE Open Access institutional customers! RightsLink Author streamlines APC workflows, improves processing times, and enables better reporting

Key Benefits to Institutions

- Online dashboard allows administrators to view and approve/deny article requests
- Administrators can generate transaction reports at will
- Improved ability to recognize eligible authors and prompt authors to use institutional funds
- Administrators can choose between automatically or manually accepting article requests
- Improved accepted article notifications



IEEE's Open Science program focuses on expediting and reproducibility of research

Open Science tools for researchers and authors alike



IEEEDataPort™

TechRxiv™
Powered by IEEE

Open Code
from Studies

Open Data from
Studies

Earliest Access to
Studies

*Upload code free of charge
and users can access code
without a subscription*

*Publish large data sets
associated with
research studies*

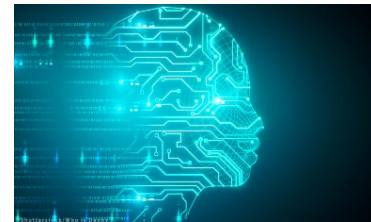
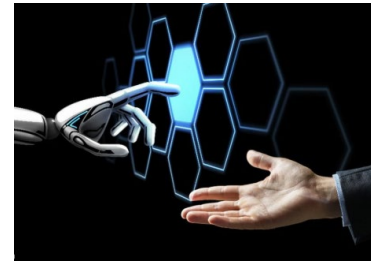
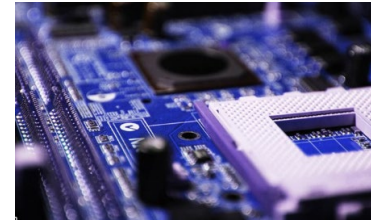
*Post early and fully open
versions of articles, prior
to peer review*

New IEEE Content and Publications Coming Soon to IEEE *Xplore*

New IEEE Journals Coming in 2020 & 2021

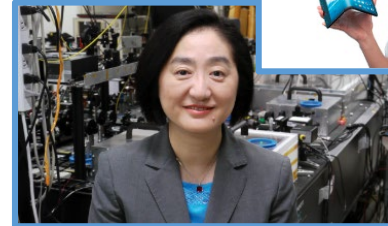
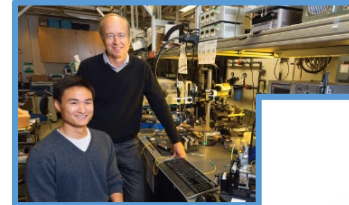
These new journal titles* will soon be available and accessible via subscription:

- IEEE Journal of Emerging and Selected Topics in **Industrial Electronics**
- IEEE Journal on Selected Areas in **Information Theory**
- IEEE Transactions on **Technology and Society**
- IEEE Transactions on **Artificial Intelligence**
- IEEE BITS the **Information Theory Magazine**



IEEE's Shift to Virtual Conferences Keeps the Research Community Connected and Publishing

- IEEE has adapted to support the technical community and continues to drive innovation forward during this challenging time. IEEE is continuing to help authors disseminate their research and publish new papers.
- The majority of IEEE conferences continue on in a new virtual format and many are seeing record attendance levels and attracting papers from a global audience.
- Example:
 - The CLEO conference was held in May 2020
 - Nearly **20,000** registrants from 75 countries
 - Over **1,800** scientific papers – a 20% increase!
 - All the papers presented at this conference are now available in the IEEE *Xplore* digital library



IEEE Conferences Continue to Address Growing Areas of Research in New and Emerging Technologies

IEEE conferences continue to address growing areas of research that transform our lives. Below are some examples of conferences published in 2020 covering these innovative technologies:

- IEEE Int'l Conf on Blockchain and Cryptocurrency (ICBC)
- 2020 Conf on Data Science and Machine Learning Applications
- World Symposium on Artificial Intelligence (WSAI)
- Int'l Conf on Artificial Intelligence and Big Data (ICAIBD)
- Int'l Conf on Connected and Autonomous Driving
- 2020 Global Internet of Things Summit (GloTS)
- IEEE Int'l Conf on Cyber Security and Cloud Computing
- IEEE Int'l Conf on Power Electronics, Smart Grid, and Renewable Energy
- Int'l Conf on Renewable Energies for Developing Countries
- Conf on Innovation in Clouds, Internet and Networks, and Workshops (ICIN)
- 2020 Int'l Conf on Ubiquitous Robots (UR)
- 2020 3rd Int'l Conf on Engineering: Machine Learning and Internet of Things



IEEE Xplore[®]
Digital Library

Remote Access Options

IEEE *Xplore* Remote Access Options

- IEEE has been working to ensure every user can access IEEE *Xplore* even while working remotely.
- Institutional Solutions include:
 - Proxy Servers such as Ezproxy
 - IP Authentication via VPN
 - Shibboleth
 - OpenAthens
 - SAML (Corporate Single Sign On)
 - Remote Access via IEEE Personal Account (IP authenticated customers only)
 - GoogleScholar CASA

Tips to Access your Organization's IEEE *Xplore* Subscription When Working Remotely

<https://innovate.ieee.org/tips-to-access>



[Creeaza cont](#)[Profil instituțional](#)[Login](#)

Susținem comunitatea de cercetare din România

Nou ! #Raport evaluare

Acceseaza raportul de evaluare din profilul instituțional

Actualizat # Publicare

Acceseaza servicii de la A la Z pentru publicare și promovare!

Nou ! #Peacemed

Acceseaza continut medical prin proiectul dedicat spitalelor publice din Bucuresti!



Activarea contului de acces mobil

1. Accesați www.enformation.ro
2. Selectați tab-ul "Creeaza Cont"
3. Selectați "Creează cont", completați formularul și selectați "Înregistrare". Veți primi un mesaj la adresa de email folosită pentru înregistrare ce conține un link de confirmare. Accesați link-ul și veți fi redirecționați către www.enformation.ro pentru a finaliza înregistrarea.

Este important ca în timpul acestui process să fiți conectați la rețeaua de internet a instituției pentru ca activarea contului să se facă automat

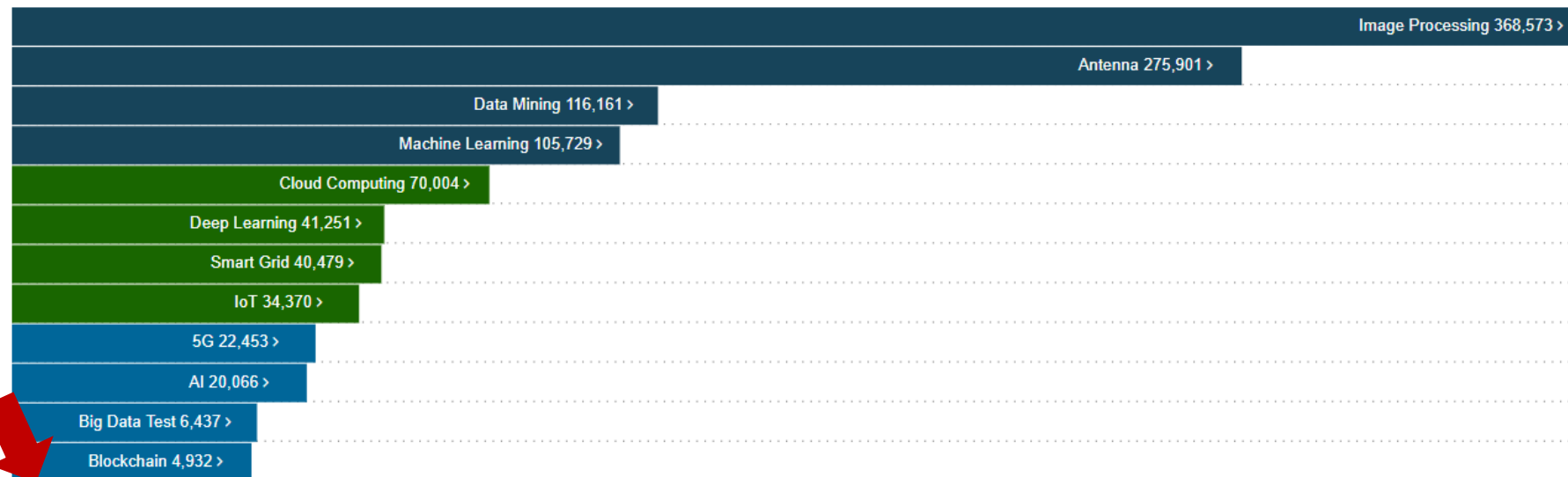
În cazul în care activarea contului nu se face automat, vă rugăm să ne contactați la adresa de e-mail rares.vasilica@enformation.ro

IEEE Xplore[®]
Digital Library

New Features & Enhancements

Redesigned IEEE Xplore Homepage

Top Searches and Matching Documents ?



SEE ALL

Discover Trending Content

Top Searches and Popular Content

Top Search Terms ?

Graphic

List

- | | | | |
|-----------------------|--------------------------------|--------------------|--------------------|
| 1. 5G | 6. Cloud Computing | 11. Smart Grid | 16. CNN |
| 2. Image Processing | 7. Deep Learning | 12. Edge Computing | 17. 6G |
| 3. Blockchain | 8. Big Data | 13. IEEE Access | 18. Cyber Security |
| 4. Internet of Things | 9. Electromagnetic Teach Model | 14. NOMA | 19. microgrid |
| 5. Antenna | 10. Data Mining | 15. UAV | 20. MIMO |

Popular Content



All

Journal and Magazine
Articles

Conferences Papers

Standards

Books

SoCodeCNN: Program Source Code for Visual CNN Classification Using Computer Vision Methodology

[IEEE Access](#)

Somdip Dey ; Amit Kumar Singh ; Dilip Kumar Prasad ; Klaus Dieter Mcdonald-Maier

PiiGAN: Generative Adversarial Networks for Pluralistic Image Inpainting

[IEEE Access](#)

Weiwei Cai ; Zhanguo Wei

Redesigned IEEE Xplore Homepage

Featured Articles



3D Printing Liquid Metal to Create Stretchable Electronic Devices

[READ MORE](#) ▶



As 5G Wireless Rolls Out, Experts Look Ahead to 6G

[READ MORE](#) ▶



Scientists Testing Human Safety Measures for Self-Driving Cars

[READ MORE](#) ▶

Redesigned IEEE Xplore Homepage

Featured Authors



Gaurav Sharma
(ROCHESTER, NY, USA)

A Survey of Healthcare Internet of Things (HIoT): A Clinical Perspective

[Follow This Author](#)

[MORE FROM GAURAV SHARMA](#) ▶



Yonina C. Eldar
(REHOVOT, ISRAEL)

Efficient and Interpretable Deep Blind Image Deblurring Via Algorithm Unrolling

[Follow This Author](#)

[MORE FROM YONINA C. ELДАР](#) ▶



Mohamed-Slim Alouini
(THUWAL, SAUDI ARABIA)

Stochastic Geometry-Based Analysis of Airborne Base Stations With Laser-Powered UAVs

[Follow This Author](#)

[MORE FROM MOHAMED-SLIM ALOUINI](#) ▶

Recommended Publications on the Search Results Page

Sept 2020

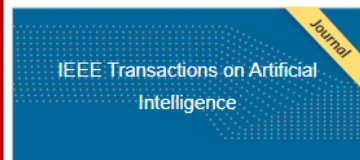
Showing 1-25 of 168,484 for **Artificial Intelligence** ✕

▼ Filters Applied: 2010 - 2021 ✕

- Conferences (132,369) Journals (32,502) Magazines (2,070) Early Access Articles (1,166)
- Books (327) Standards (34) Courses (16)

Publications You May Be Interested In: (Beta)

Hide Related Publications ^



[View More Journals and Conferences](#)

Show

- All Results
- Subscribed Content ?
- Open Access Only

Select All on Page

Sort By: **Relevance** ▼

Standards Dictionary Terms ?

- The Perspective of Dimensional Perpetuity for Artificial Intelligence: A Model on Socio-Legal and Political Evolution as a Challenge to Entrepreneurial Ethics** 
- Abhivardhan
- 2020 2nd World Symposium on **Artificial Intelligence** (WSAI)
- Year: 2020 | Conference Paper | Publisher: IEEE

▶ Abstract [\(\(html\)\)](#)  (80 Kb) 

- fault isolation
- interoperability
- range
- result
- ambiguity group
- artificial intelligence (AI)
- assertion

Sort Search Results by 'Most Popular'

Top customer request

Search within results



Download PDFs

Search Alerts Search History

Showing 1-25 of 28,054 for **edge computing** Conferences (21,356) Journals (5,160) Magazines (877) Early Access Articles (546) Books (75) Courses (35) Standards (5)

Show

- All Results
- My Subscribed Content
- Open Access

Year



Author



Affiliation



Publication Title

 Select All on Page **A Software Defined Fog Node Based Distributed Blockchain Cloud A**Pradip Kumar Sharma ; Mu-Yen Chen ; Jong Hyuk Park
IEEE Access

Year: 2018 | Volume: 6 | Journal Article | Publisher: IEEE

Cited by: Papers (86)

[▶ Abstract](#)
[\(html\)](#)
 (8813 Kb)

 Histograms of oriented gradients for human detection

N. Dalal ; B. Triggs

2005 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'05)

Year: 2005 | Volume: 1 | Conference Paper | Publisher: IEEE

Cited by: Papers (11894) | Patents (293)

[▶ Abstract](#)
[\(html\)](#)
 (238 Kb)

Sort By: **Most Popular**

- Relevance
- Newest First
- Oldest First
- Most Cited [By Papers]
- Most Cited [By Patents]
- Most Popular**
- Publication Title A-Z
- Publication Title Z-A

Standards Dictionary Terms ?










- **\$**-out-of-**\$** code.
- **\$** - address in struction.
- **\$** -adic Boolean operation.
- **\$** -adic operation.
- **\$** -adic.
- **\$** -aey Boolean operation. *.
- **\$** -ary

Browse »

Follow Author Feature

Alerts

Manage your research quickly and efficiently with convenient email alerts. Alerts will be sent to **johnsmith@gmail.com**. You can change your alert email address in [Preferences](#).

Journals & Magazines	Conferences	Standards	Books	Citation	Saved Searches	Authors
	Theodore S. Rappaport				 	
	Kevin Wang				 	
	Shu Sun				 	

Cite This

- Quickly and easily

Characterizing the Propagation of Situational Information in Social Media During COVID-19 Epidemic: A Case Study on Weibo

Publisher:



Cite This



9 Author(s)

Lifang Li ; Qingpeng Zhang ; Xiao Wang

2

Paper Citations

8467

Full Text Views



Free

Abstract

Document Sections

- I. Introduction
- II. Situational Information in Social Media

Abstract:

During the ongoing outbreak of coronavirus disease (COVID-19), people use social media to acquire and exchange various types of information at a historic and unprecedented scale. Only the situational information are valuable for the public and authorities to response to the epidemic. Therefore, it is important to identify such situational information and to understand how it is being propagated on social media, so that appropriate information publishing strategies can be informed for the COVID-19 epidemic. This article sought to fill this gap by harnessing Weibo data and natural language processing techniques to classify the COVID-19-related information into seven types of situational information. We found specific

Cite This ✕

Plain Text	BibTeX	RIS	Reworks
------------	--------	-----	---------

Citation & Abstract

L. Li *et al.*, "Characterizing the Propagation of Situational Information in Social Media During COVID-19 Epidemic: A Case Study on Weibo," in *IEEE Transactions on Computational Social Systems*, vol. 7, no. 2, pp. 556-562, April 2020, doi: 10.1109/TCSS.2020.2980007.

Copy

Streamlined Method for Downloading Citations

Journals & Magazines > IEEE Transactions on Computat > Volume: 7 Issue: 2

Characterizing the Propagation of Situational Information in Social Media During COVID-19 Epidemic

Publisher: IEEE [Cite This](#)

9 Author(s) Lifang Li ; Qingpeng Zhang

2 Paper Citations 8467 Full Text Views

Free

Abstract

Document Sections

- Introduction
- Situational Information in Social Media
- Features for Predicting

Abstract: During the exchange of information in social media, so many important features are hidden. This article classifies the features in

Cite This ✕

Plain Text
BibTeX
RIS
Refworks

Copy
Download
 Citation & Abstract

```

@ARTICLE{9043580,
  author={L. {Li} and Q. {Zhang} and X. {Wang} and J. {Zhang} and T. {Wang} and T. {Gao} and W. {Duan}},
  journal={IEEE Transactions on Computational Social Systems},
  title={Characterizing the Propagation of Situational Information in Social Media During COVID-19 Epidemic},
  year={2020},
  volume={7},
  number={2},
  pages={556-562},
  abstract={During the ongoing outbreak of coronavirus disease (COVID-19), people use social media to exchange information in social media, so many important features are hidden. This article classifies the features in},
  keywords={diseases;microorganisms;natural language processing;social networking (online);social media},
  doi={10.1109/TCSS.2020.2980007},
  ISSN={2329-924X},
  month={April},}
          
```

[Copy](#)

More Like This

Automatically Structuring on Chinese Ultrasound Report of Cerebrovascular Diseases via Natural Language Processing
IEEE Access
Published: 2019

A Natural Language Processing Framework for Assessing Hospital Readmissions for Patients With COPD
IEEE Journal of Biomedical and Health Informatics
Published: 2018

[Show More](#)


Top Organizations with Patents on Technologies Mentioned in This Article

ORGANIZATION 4	<div style="width: 100%; height: 10px; background-color: #c07040;"></div>
ORGANIZATION 3	<div style="width: 90%; height: 10px; background-color: #c07040;"></div>
ORGANIZATION 2	<div style="width: 70%; height: 10px; background-color: #c07040;"></div>
ORGANIZATION 1	<div style="width: 50%; height: 10px; background-color: #c07040;"></div>

[▼](#)

New Supplemental item –Video for conference papers

Show

- All Results
- Subscribed Content 
- Open Access Only

Supplemental Items

- Media (33,799)
- Video (897)
- Datasets (365)
- Code (306)

Apply

Select All on Page

Sort By: **Newest First** 

SR Latch: The Wrong Introduction to Digital Memory 

Abdulahdi Shoufan

2020 IEEE International Symposium on Circuits and Systems (ISCAS)

Year: 2020 | Conference Paper | Publisher: IEEE

 Abstract

 ((html))

 (128 Kb)



 Video

A High Efficiency Frequency-Modulated 1/2X Switched Capacitor DC-DC Converter with Wide Load Range 

Mengyu Li;Menglian Zhao;Sheng Liu;Haonan Wu;Zhao Yang;Xiaobo Wu

2020 IEEE International Symposium on Circuits and Systems (ISCAS)

Year: 2020 | Conference Paper | Publisher: IEEE

 Abstract

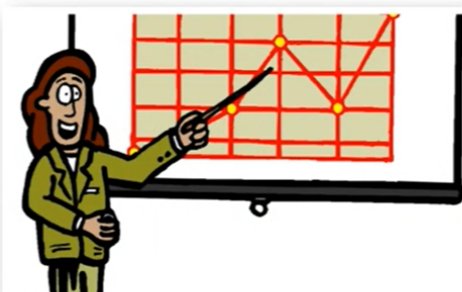
 ((html))

 (1106 Kb)



 Video

Motivation: Explanation Discomfort



for writing the paper is actually the discomfort

Transcript

SR Latch: The Wrong Introduction to Digital Memory

[00:00] ABDULHADI SHOUFAN Hello, everyone. This is Abdulhadi Shoufan. I am the head [INAUDIBLE] and director engineering and computer science department at Khalifa University. I would love to talk to you about a teaching experience in teaching digital logic design, specifically when we move from the combinatorial logic to the sequential logic and we have to explain the digital memory [INAUDIBLE] students as a basic component of sequential logic.

[00:30] ABDULHADI SHOUFAN The motivation for my thoughts and, later, for writing the paper is actually the discomfort that we have when we explain this topic to a student. Not all topics are equally difficult in digital logic design. And, usually, we have different ways to deal with complex topics. Either we skip them completely, or we abstract from the details and tell the students that this topic is too complex for them.

[01:08] ABDULHADI SHOUFAN So we abstract from the technicality of the topic, or we deal with it and try our luck. So, when it comes to [? notches ?] and flip-flops, there is no way to go around it. We have to deal with it because these components build the basics or the foundation for registers, shift registers, [? countdowns, ?] finite state machines, and so on.

[01:40] ABDULHADI SHOUFAN So there is no way to go around it. The problem with this is that textbooks are not very helpful when it comes to explaining the flip-flops. And we can see that textbooks are actually, they skip the basic concept, or they abstract from it and start dealing with implementation of the flip-flops.

[02:10] ABDULHADI SHOUFAN And this is a major, major issue actually. So, if you want to explain the 1-bit memory concept, we should go to the basics and try to define what a memory is or 1-bit memory is. We have a bit we want to store. And we make a storage for it. Of course, the storage should be controlled and that we would like to store at specific time points and pay attention to the bit line.

[02:52] ABDULHADI SHOUFAN And that's why we need a control signal. I am calling it attention signal here. And, when the bit is stored, we would like to have access to it, so we need an output line on the storage. And to simplify the explanation, I would like to now give these signals letters, so D, E, and Q. So we should be consistent with combinatorial [INAUDIBLE] of the digital logic design and try to design 1-bit memory starting from a [INAUDIBLE] table.

[03:38] ABDULHADI SHOUFAN And this is the first table for 1-bit memory. We have that control signal E when it is 1. We store what is on D into Q. And, when the control signal E, that attention signal is zero, we just keep the output value as it is. And, if you look at this Q signal—now I'm extracting from the timing—you can write this equation or boolean function. And, as you can see that the Q is nothing but the output of a multiplexer, where the output goes back to the input to the zero input of the multiplexer.

[04:22] ABDULHADI SHOUFAN And this is actually the very basic concept of 1-bit memory. But, unfortunately, I reviewed probably 10 or more textbooks, all textbooks that I reviewed don't have this simple explanation. Or they do—instead, they try many circuits until they get to a good [INAUDIBLE].

[04:52] ABDULHADI SHOUFAN And they some textbooks show this two cross-coupled inverter as a bit-stable element for storage. But they criticize it because it has no inputs or outputs. Then, they throw the

IEEE Xplore[®]
Digital Library

Author Tools

Publish

Performing a Literature Search and Picking the Right Publication

- Make sure your article reports original work
- Use databases such as IEEE *Xplore*
- Sign up for Content Alerts
- Read leading journals in the field of your article
- Try the IEEE Publication Recommender
- Run a keyword search
- Look at the publications cited in your references
- Ask colleagues and co-authors for suggestions

The screenshot shows the IEEE Publication Recommender website. At the top, there are navigation links: IEEE.org, IEEE Xplore Digital Library, IEEE Author Center, IEEE-SA, IEEE Spectrum, and More Sites. The main heading is "IEEE Publication Recommender™" with the tagline "Find the best match for your scholarly article". Below this, there are two columns of bullet points: "Search 190+ periodicals and 1800+ conferences", "Compare critical points such as Impact Factor and Submission-To-Publication Time", "Get all the key data about IEEE publications at a glance", and "Download the results of your search". The main content area is a blue box with the heading "Choose a search type and let Publication Recommender do the work!". It has three radio buttons: "Both Periodicals and Conferences" (selected), "Periodicals only", and "Conferences only". There are two input fields: "Enter keywords, key phrases, or article title" and "Extract keywords from your article" (with a sub-instruction "Enter your abstract or drag your article file here (PDF, DOC, DOCX, TEX)"). Below these is a "Narrow by date:" section with a calendar icon and a "Get Recommendation" button. A secondary section is titled "Or, find details for a specific Periodical or Conference:" with a search input field. At the bottom, there are footer links: IEEE.org, Contact & Support, Accessibility, Nondiscrimination Policy, Privacy & Opting Out of Cookies, and Feedback. The IEEE logo and tagline "Advancing Technology for Humanity" are in the bottom right corner.

<https://publication-recommender.ieee.org/home>

Targeted Guidance for Authors

The screenshot displays the IEEE Author Center website. At the top, there is a navigation bar with links for IEEE.org, IEEE Xplore Digital Library, IEEE Standards, IEEE Spectrum, and More sites. The IEEE logo and 'JOIN IEEE' are on the right. Below this is the 'IEEE Author Center' logo with the tagline 'Resources & Tools for Authors'. A secondary navigation menu includes 'HOME' (highlighted), 'NEW AUTHORS', 'JOURNAL AUTHORS', 'CONFERENCE AUTHORS', 'BOOK AUTHORS', and 'MAGAZINE AUTHORS'. A search bar with the placeholder 'Search this website' and a 'SEARCH' button is centered. Below the search bar are three circular icons: '1 WRITING', '2 PEER REVIEW', and '3 PUBLICATION'. At the bottom, the text 'Publish with IEEE' is followed by a paragraph: 'Where you publish matters. IEEE is a trusted source for researchers in academia, industry, and government. By publishing with IEEE, you will get the global prestige that high-quality research deserves. Authors are welcome to post their preprints to TechRxiv [TechRxiv](#).' The IEEE logo is at the bottom right of the screenshot.

URL: ieeauthorcenter.ieee.org

IEEE Author Tools

URL:

<https://newauthors.ieeeauthorcenter.ieee.org/author-tools/>

Recommend
publications

Write in
LaTeX

Select a
template

Validate your
references

Share your
code and
data

Learn and Connect

Video Tutorials

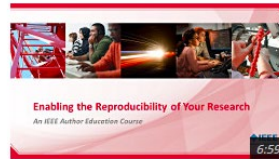
First-time author? We can help. Learn all you need to know about publishing your article with educational resources from the IEEE Author Center.



Writing Your Article for Journal Publication



Reviewing an Article



Enabling the Reproducibility of Your Research



Author Collaboration Tools in IEEE Collabratec



Article Posting



URL: ieeauthorcenter.ieee.org

- Authors@IEEE newsletter
- Live and On-Demand practical, skills-based training
- Network, collaborate, and create with technology experts globally in the AuthorLab
- Questions? Contact the IEEE Author Engagement team at authors@ieee.org

GET THE MOST OUT OF YOUR IEEE *Xplore* Digital Library Subscription

The IEEE Client Services team can help you promote and optimize your IEEE *Xplore* subscription.

- Lively, customized learning opportunities
- In-depth training to help users master searching best practices
- Increased awareness and usage through free online webinars



Techniques for Effective Searching in IEEE *Xplore*



How to Get Published with IEEE



IEEE Standards: Powering Innovation and the World Around Us



Career, Content, and Networking: Today's IEEE

Thank you for joining us today!

For more information:

- Visit IEEE *Xplore*: <https://ieeexplore.ieee.org>
- More Webinars: <https://innovate.ieee.org/free-webinars-from-ieee>
- IEEE e-Resources for Organizations: <https://innovate.ieee.org>

Judy H Brady
IEEE Area Manager, Europe
j.brady@ieee.org
+1 732 856 9565



Eszter Lukács
IEEE Client Services Manager Europe
e.lukacs@ieee.org
+49 170 563 2738

