News Letter
Digital University Kerala

in this issue

DIGITAL UNIVERSITY KERALA
Curating a responsible digital world

New Year
2023

Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala)

Quotes

"A physicist is just an atom's way of looking at itself."

Nobel Laureate: Aage Niels Bohr | Denmark, Physics 1922

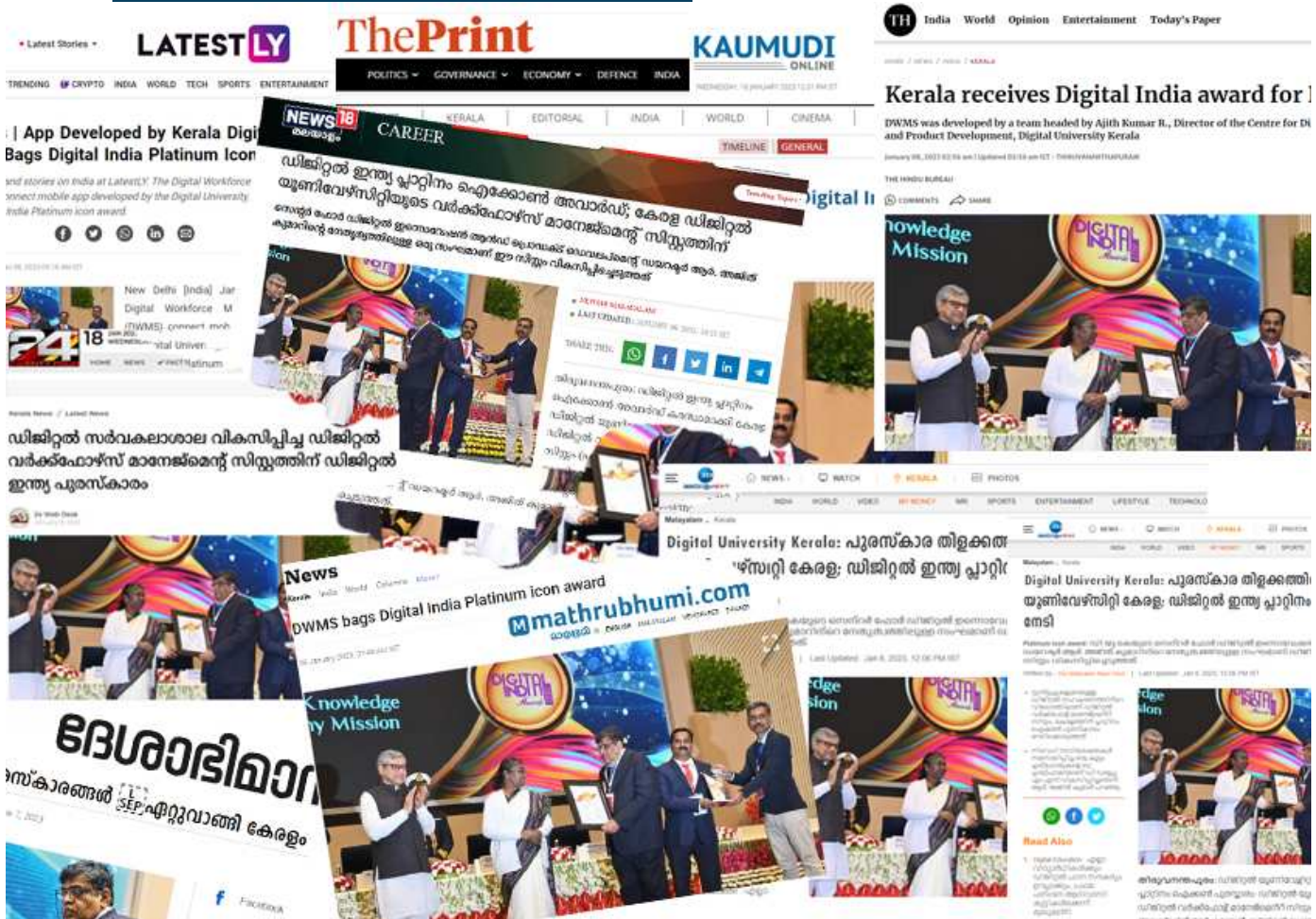# Digital University Kerala Bags Digital India Platinum Icon Award

New Delhi: The Digital Workforce Management System (DWMS) developed by a team headed by Ajith Kumar.R, Director, Centre for Digital Innovation and Product Development, Digital University Kerala (DUK) received the prestigious Digital India platinum icon award. The Honourable president of india Droupadi Murmu presented the award to Kerala team comprising of Prof Ajith Kumar, Dr. P.V. Unnikrishnan, Member secretary, K-DISC and Riyas PM Manager, Kerala Knowledge Economy Mission at a function in New Delhi on Saturday, 7 Jan 2023. DWMS is developed as a platform of platforms, which integrates many features like onboarding, profiling, curation of job seekers, skill assessment, and matching. Other features include knowledge assessment, Robotic interview, Personality Development, English language assessment, e-learning, career counselling and career guidance among others.

9.62 lakh downloads till date and counting!

9.62 lakh people have downloaded the DWMS Connect mobile app developed by Digital University Kerala (DUK) till now through Google playstore. Digital Workforce Management System (DWMS), developed by DUK team headed by Prof Ajith Kumar.R for Kerala Knowledge Economy Mission (KKEM), a K-DISC initiative, won the Digital India platinum icon award.

DUK faculty wins State e Governance Award

Mr. Radhakrishnan T, Assistant Professor- Digital University Kerala for winning First Prize in State e-Governance Award for the Mobile Application for Mannu (Soil).

Congratulations to

Radhakrishnan T

for winning First Prize in State e-Governance Award for the Mobile Application Mannu

We are proud of you...!

BlockHash LIVE 2022: Annual Blockchain Summit held at Arts and Crafts village

The 5th Edition of the Annual Blockchain Summit- BlockHash LIVE 2022 by Kerala Blockchain Academy, a center of excellence under Digital University Kerala was held at Kerala Arts and Crafts Village, Kovalam, on the 16th and 17th of December. The event witnessed the latest blockchain disruptions and expert opinions on the blockchain for a sustainable future. The two-day event threw light on the immense scope and development that awaits the State of Kerala with regard to blockchain adoption and implementation.

Power-packed with technology enthusiasts, BlockHash LIVE had more than 150 participants getting an opportunity to network with industry experts and learn more about the technology through workshops, panel discussions, tech exhibitions, and allied practices. Master Hrishikesh Arun, a Tech Prodigy inaugurated the event.

The event also witnessed the launch of Kerala Chapter of India Blockchain Forum in the presence of Dr. Asharaf S, Director, Kerala Blockchain Academy), Prasanna Lohar , President, India Blockchain Forum, Sunil Raveendran, President, Kerala Chapter of the India Blockchain Forum, Adarsh S, Vice-President, Kerala Chapter of India Blockchain Forum and officials from Kerala Police Cybedome. India Blockchain Forum aims at making India a global hub for Blockchain and Web 3.0. It aims to create community chapters across the country to increase awareness and access to global best practices. India Blockchain Forum envisages a collaboration model with governments, regulators, Industry, and academia to help build a holistic framework for the right adoption of blockchain and web 3.0. The forum has more than 40 influencers and is setting up Special Interest Groups (SIGs) in areas such as CBDC and Web 3.0 adoption. The logo of the India Blockchain Forum - Kerala chapter was unveiled by Mr. Prasanna Lohar.

BlockHash LIVE 2022, drew to a close with vibrant discussions, self-explorations, blockchain introspections, and a networking lunch. Metaverse Workshop by Aviram Studio delivered a photoreal, physically-accurate simulation powered by their AR/VR technologies on the last day. The Interactive Panel Discussions such as Blockchain Adoption and Entrepreneurship Journey exposed the audience to the approaches to how blockchain planners and entrepreneurs used the technology.

DUK- AICTE Orientation Program on Technical Book Translation

The Digital University Kerala is trying to attain another milestone by coordinating the technical translation scheme in collaboration with All India Council for Technical Education (AICTE), as part of the implementation of National Education Policy 2020.

Introducing Technical books in Malayalam may enable the students to understand technical concepts more clearly, which will make them more creative and productive in technology. This translation programme emphasizes on "Understanding" and facilitates students to learn technical subjects independently in their native language. It will also serve to uplift students from urban and rural areas. This will provide equal opportunities for the students to learn concepts, visualize, think, design and implement their ideas at the workplace.

As part of this programme, AICTE in collaboration with Digital University Kerala conducted its second orientation programme on AICTE Technical book Translation on 22nd December 2022 at Digital University Technopark Phase 4 Campus. Professor Achuth Sankar S Nair, Head of Department of BioInformatics, University of Kerala inaugurated the event and Dr Saji Gopinath, Vice Chancellor, DUK delivered the presidential address to the audience. Dr. Mamta R Agarwal, Adviser-1, AICTE Training and Learning(ATAL) and Chief Guest Professor M.P Poonia, Honorable Vice Chairman, AICTE, New Delhi addressed the audience. Dr. Malu G, Co-coordinator of the AICTE of translation Programme at Digital University delivered the vote of thanks.

Dr Elizabeth Sherly, Coordinator of the programme gave an overview on AICTE Technical Book Writing translation to the audience. In the Technical session entitled "Translation Process & Methods - AICTE Books Translation" the UDAAN team from IIT Bombay introduced the translation tool to the participants. The programme concluded with a hands on training and Question and Answer session for the participants. The 84 faculty members from various Engineering colleges will translate and review 42 books of third and fourth semester UG Engineering courses.

First Advisory Committee Meeting of Centre for Digital Transformation in Culture (CDTC) conducted

The Centre for Digital Transformation in Culture (CDTC) of Digital University had its initial Advisory Committee Meeting in hybrid mode at Mascot Hotel, Trivandrum. Advisory Committee members are

Mr. K Jayakumar IAS, Chairman, Dr. Rani George IAS, Cultural Secretary, Department of Culture, GoK, Dr. Saji Gopinath, Vice Chancellor, Digital University Kerala, Mr. M. V. Narayanan, Vice Chancellor, Kerala Kalamandalam, Dr. K. H. Harilal, Former Planning board member, Dr. Achuth Sankar S Nair. Professor, Dept. of Computational Biology and Bioinformatics, Mr. M. G Radhakrishnan, Group Advisor, Asianet, Mr. Pramod Payannur, Member Secretary, Bharath Bhavan, Dr. Raghu Raghavan, Faculty of Health and Life Sciences, De Montfort University, Mr. Gopinath Muthukadu, Magician and Writer, Mr Hari M. R., Invis Multimedia, Mr. Basil Joseph, Film director, and Actor, Dr. Elizabeth Sherly, Digital University Kerala and Dr. Malu G, Digital University Kerala.

Dr. Saji Gopinath, Vice Chancellor of DUK, highlighted the objectives of CDTC that "Enhance the adoption of traditional art forms (of Kerala) through intelligent Digital System". The concept Digital Art comprises Arts, Brain Computing, Agriculture, Technology, Digital Science, Artificial Intelligence. Digitization can transform the cultural art forms from a regional community to world wide. The CDTC tentatively focuses on two areas – Research and Development of Digital Infrastructure for Transformation. Shri. K Jayakumar IAS, Chairman of the committee appreciated the initiatives of the University. Digitization of rich and large varieties of artforms, culture and heritage is the need of the hour

Dr. M.V Narayanan, Vice Chancellor Kerala Kalamandalam, pointed to the cultural mapping of art forms, intangible heritage, archiving and preservation of endangered cultural forms. Historical archiving is to protect vulnerable arts and artists and active archival to create dynamic content with open accessibility, annotation and tagging etc. Mr. M. G Radhakrishnan of Asianet channel shared the idea of a master class environment, so that our culture and arts can be reached world-wide and those who wish to get classes from the expert can avail it. According to his point of view the master class with multilingualism will be more effective. Mr. Hari M. R, Invis Multimedia, shared his idea on a business model willing to support the artists.

Dr.Achuth Sankar, Professor, Dept. of Computational Biology and Bioinformatics, Kerala university, emphasized the need of creating a protocol for curating and acheiving which should not affect the change in Technology. Dr. Raghu Raghavan of De Montfort University highlighted the importance of digitization in art forms. Mr. Pramod Payyanur, Member Secretary, Bharath Bhavan, told to selectively choose cultural activities and implement them in the University. As we are going to deal with the alpha-C generation, the possibilities of CDTC are incredible. Dr. Elizabeth Sherly, DVP, and Dr Malu. G, Research Officer, Co-ordinators of the CDTC were also present.

90% Placement for Academic Year 2020-22

The Placement Cell of Digital University Kerala (DUK) could manage to secure 90% placement and 100% internship for the academic year of 2020-22. As many as 114 of 126 have been placed for the 2022 academic year with five students opting out of the placements. The DUK Placement Cell conducted 32 placement drives for the academic year 2022 and 16 for 2023 pass-out students till day. Placements and internships of 2023 pass-out students are ongoing. The average CTC for 2022 offered by the company was above 4.6 LPA with the highest being 12 LPA. Two of our students made it to the highest package.

The average CTC for 2023 offered by the company is above 6.07 LPA with the highest being 12 LPA. Three of our students made it to the highest package. DUK Placement Cell conducted more than 8 industry-related programs for 2022 pass-out students and 22 programs for 2023 pass-out students through online and offline modes and also conducted many online and offline aptitude tests for students.

Digital University Kerala

DUK Placement Cell

Placement & Internship Status for (2020-22) and (2021-23)

Placement Status (branch-wise) for 2020-22

MSc (Streams)	Placement Percentage (%)
MSc (Cyb. Sec)	97%
MSc (GA)	86%
MSc (MI)	80%
MSc (DA)	97%

Digital University Kerala participates in Higher Studies Expo - DISHA23

The Digital University Kerala participated in Higher Studies Expo - DISHA23 organized by the Career Guidance and Adolescent Counselling Cell under the higher secondary wing of the General Education department in Kozhikode from 3rd to 7th January 2022.

Nearly 60 Universities and Educational institutions under the Union and State

Government participated in the expo. These include Digital University Kerala, NIT-C, IIM-K, IISER, TISS, Indian Institute of Craft and Design, NUALS, IIT Madras, IIHMCT, Food Craft Institute, Central Institute of Plastic Technology, Indian Institute of Handloom Technology, IGNOU, APJ Abdul Kalam Technological University, and main universities in the state. More than 30,000 students and the General public visited the stall. Digital University Kerala showcased higher education and research opportunities in the DUK. Memento received from Kerala Sports Minister Ahamed Devarkovil .

Pedagogic Pinnacles at Digital University Kerala

A class activity given to the students of MSc Ecology with specialisation in Ecological Informatics has led to a hitherto new perspective in understanding energy transfer within ecosystems.

The students who enrolled for MSc Ecology at Digital University Kerala (DUK) in 2021 were encouraged to generate a new way to represent energy transfer across trophic levels within ecosystems. They applied their knowledge of principles and generalisations to arrive at the Resouce Area Pyramid.

Resource Area Pyramid is based on the area used by individuals at each trophic level. This seemingly simple visualisation goes beyond the conventional approach of understanding species within different trophic levels as 'primary producers', 'primary consumers' and 'secondary consumers'. The focus in Resource Area Pyramid is on individual species. This approach will augment conservation efforts by demonstrating how much space a species needs and how human activity impacts its resource base.

The students shared the Resource Area Pyramid on social media(1). It is included in the Winter edition of The Niche: A magazine of the British Ecological Society.

From a pedagogical viewpoint, developing a new visualisation perspective finds a position at the apex of Bloom's Taxonomy of educational goals. Among the other innovative pedagogical approaches effectively used at the School of Informatics, DUK includes using colour candies to teach quantitative biodiversity (2), class assignment resulting in an application for monitoring invasive species, and a novel means of online assessment of students (3).

- https://ecologystudentduk.blogspot.com/2021/12/resource-area-pyramid-aspart-of-our.html?spref=tw
- https://www.facebook.com/permalink.phpstory_fbid=pfbid032kxcxE69obZiEuTN62jH1Dt5McWEsLZ2XBh6kcnaZKNC3VBsevpfHQzaJ8gbXnoCl&id=103662352090613
- https://www.facebook.com/103662352090613/videos/1077785129510793

THE NICHE

Your magazine from the British Ecological Society

Prof. Jaishankar R Nair
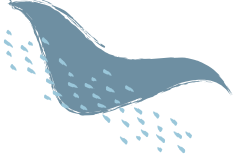on Resource area pyramid

RESEARCH

RESOURCE AREA PYRAMID

We're all familiar with ecological pyramids representing biomass, energy and populations, but MSc ecology students specialising in ecological informatics from the Digital University of Kerala have found a new perspective – an inverted resource area pyramid. The pyramid is based on the area used by individuals in each trophic level. This simple visualization could help conservation efforts by demonstrating how much space certain species need, and how human activity can impact their resources.

The students welcome feedback on their idea, please contact course tutor Dr Jaishanker R Nair jrnair@duk.ac.in

Tiger *Panthera tigris tigris*
100 km^2

Wild boar *Sus scrofa*
5.8 km^2

Beetles *Scarabaeidae*
$40-70 \text{ cm}^2$

Meadow grass *Poa annua*
$15-20 \text{ cm}^2$

THE NICHE | WINTER 2022

Snippets

Online Talk at the British Ecological Society Annual Meeting 2022

Minu Merin Sabu, Research Scholar, School of Informatics, conducted an online talk/poster at the British Ecological Society Annual Meeting 2022 (19-21 December held at Edinburgh, Scotland) on the topic 'Sonic Characterization of Seashore Soundscapes of Kerala - A Novel Approach for Coastal Biodiversity Studies'

Techno Park Premiere League

DUK Cricket B team WON the first round of the TPL cricket Match held on 16.12.2023 at Technopark Cricket Ground. Match between Candiya United VS Digital University Kerala B.
Match won by 8 wickets.

Faculty Publications

Paper Publications

- Gayathri R. Nayar, Tony Thomas, Partial palm vein based biometric authentication, Elsevier, Journal of Information Security and Applications, Volume 72, February 2023, 103390, Available online 9 December 2022.
  Doi:https://doi.org/10.1016/j.jisa.2022.103390

- Sini V. Pillai, Jnaneswar K., Dhanya J. S., Suresh Subramoniam, "Conquering the Employability Conundrum among Business Graduates in India" Abhigyan, Vol. 40(3), October – December 2022.

Paper Presentation

- Dr. Sini V. Pillai, presented a research paper on "People-Centric Practices for Industry 5.0: A Bibliometric Analysis" at POMS India International Conference 2022 on "Reimagine OM for Providing Sustainable Solutions in New Normal" at IIM Kozhikode during December 21-23, 2022.

Book Chapter:

- K R Raghi, D R Sherin, T K Manojkumar, "Theory, Modelling, and Simulation in Supercapacitors", Polymer Nanocomposites in Supercapacitors, CRC Press.

  https://www.taylorfrancis.com/chapters/edit/10.1201/9781003174646-12/theory-modelling-simulation-supercapacitors-kottoly-raveendran-raghi-daisy-rajaian-sherin-thanathu-manojkumar

Knowledge Centre News

Software of the Month

Krita: (https://krita.org/en/download/krita-desktop/)

Do you need a free software to edit and enhance your pictures and photogtraphs? Here is one freely available on the net. Krita. Krita is a sketching and painting program designed for digital artists. Krita is a free and open source cross-platform application that offers an end-to-end solution for creating digital art files from scratch. Krita's tools are most relevant to digital painting, concept art, illustration, and texturing.
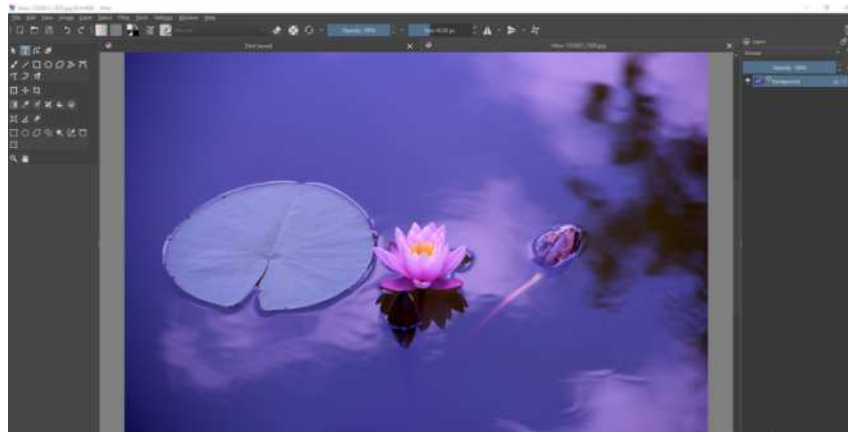
Website of the Month

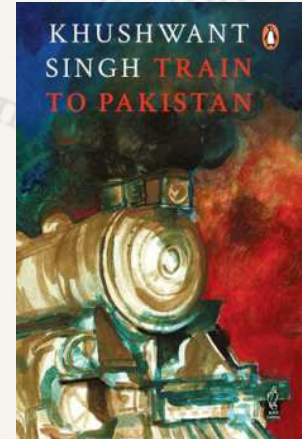### Vidya Mitra : (https://vidyamitra.inflibnet.ac.in/)

Vidya-mitra is an online learning portal for all the e-content projects developed under the NME-ICT (National Mission on Education through Information and Communication Technology), MHRD. The portal provides facility to search and browse all hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia-enriched materials etc. through a single interface. Moreover, features of faceted search, usage statistics, project-wise access, My-Space are incorporated in this portal.

Book Review of the Month

"Train to Pakistan" by Khushwant Singh

"Train to Pakistan" is a novel by Indian author Khushwant Singh. The novel is set in the Punjab region of British India during the Partition of India in 1947 and tells the story of the communal violence that broke out during this time. The book is based on the actual events of the Partition of India and its consequences. The novel centres around the small fictional village of Mano Majra, located on the border between India and Pakistan, and the lives of the people living there impacted by the Partition's violence and disorder. The novel's central plot element is the arrival of a train carrying the dead bodies of Sikhs killed by Muslims to the village, raising the tension between both communities and triggering violent revenge. The author's powerful storytelling, descriptions of rural life, and ability to convey the horror and tragedy of the Partition, as well as its exploration of themes such as love, loyalty, and religious tolerance, make for a truly immersive reading experience that will leave a lasting impact on the reader. It is a must-read for anyone looking to understand the historical context and ongoing consequences of the Partition of India.

Sumitha Valsalam
Research Scholar
School of Computer Science

New Additions to the Collection

Artificial intelligence: Applications in Healthcare Delivery

The rediscovery of the potential of artificial intelligence (AI) to improve healthcare delivery and patient outcomes has led to an increasing application of AI techniques such as deep learning, computer vision, natural language processing, and robotics in the healthcare domain. Many governments and health authorities have prioritized the application of AI in the delivery of healthcare. Also, technological giants and leading universities have established teams dedicated to the application of AI in medicine.
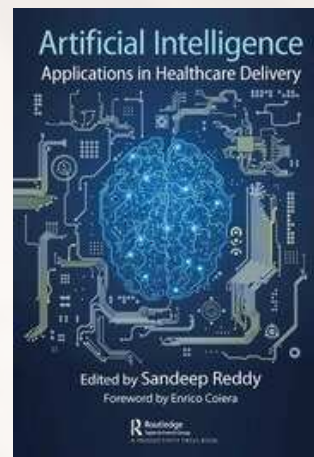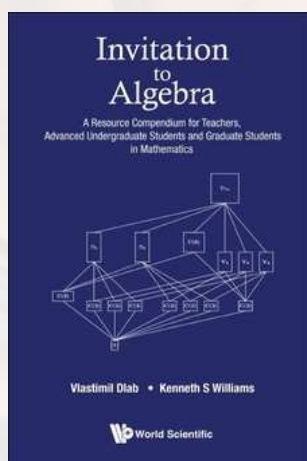
These trends will mean an expanded role for AI in the provision of healthcare. Yet, there is an incomplete understanding of what AI is and its potential for use in healthcare. This book discusses the different types of AI applicable to healthcare and their application in medicine, population health, genomics, healthcare administration, and delivery.

Source :Publisher
Reddy, Sandeep (Ed.)(2021) *Artificial intelligence: Applications in healthcare delivery* New York, Routledge.

Introduction to Algebra: A resource compendium for teachers, advanced undergraduate students and graduate students in mathematics

This book presents a compendium style account of a comprehensive mathematical journey from Arithmetic to Algebra. It contains material that is helpful to graduate and advanced undergraduate students in mathematics, university and college professors teaching mathematics, as well as some mathematics teachers teaching in the final year of high school. A successful teacher must know more than what a particular course curriculum asks for. A number of topics that are missing in present-day textbooks, and which may be attractive to students at the graduate or advanced undergraduate level in mathematics, for example, continued fractions, arithmetic progressions of higher order, complex numbers in plane geometry, differential schemes, path semigroups and path algebras, have been carefully presented. This reflects the aim of the book to attract students to mathematics.

Source :Publisher
Dlab, Vlastimil (2020) *Introduction to algebra.* New Jersey, World Scientific.

New Additions to the Collection

The Eighth Ring: An Autobiography

This deeply felt memoir, translated from the acclaimed original in Malayalam, chronicles the endeavours of four generations of the Kandathil Varughese Mappillai family that set up the Malayala Manorama, the Travancore National and Quilon Bank and other enterprises. With great candour, K.M. Mathew describes how their fortunes changed when their support to the nationalist State Congress brought upon them the wrath of the Travancore dewan, leading to the bank's collapse; and how through sheer persistence and diligence they could rebuild the paper and go on to establish huge companies. Mathew also shows that throughout the paper upheld the values of liberalism, credibility and democracy, which it continues to do until today. Featuring some of Kerala's tallest figures over almost a century, The Eighth Ring is a rich portrait of a remarkable man, his family-clan and their stirring times.
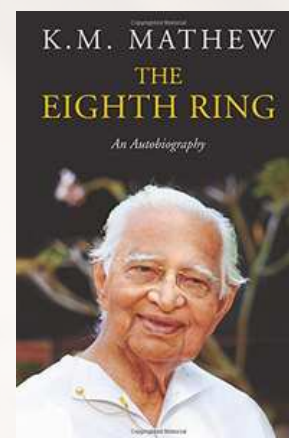
Source :Publisher

Mathew, K M (2015) *The Eighth Ring: An Autobiography*. Gurgaon, Penguin Books.

2D Computer Vision: Principles, Algorithms and Applications
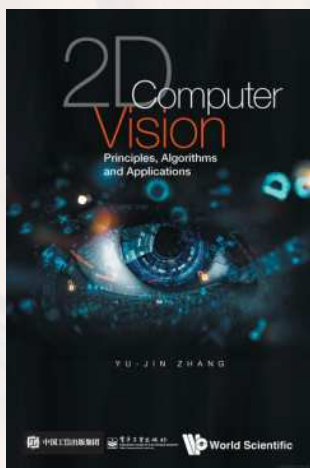
This special compendium introduces the basic principles, typical methods and practical techniques of 2D computer vision. The volume comprehensively covers the introductory content of computer vision and the materials are selected based on courses conducted in the past 20 years.

The useful textbook provides numerous examples and self-test questions (including hints and answers) through intuitive explanations to help readers understand abstract concepts.

This unique reference text provides the first computer vision course service for undergraduates of related majors in university and colleges. It also allows teachers to carry out online courses and strengthen teacher-student interaction when teaching.
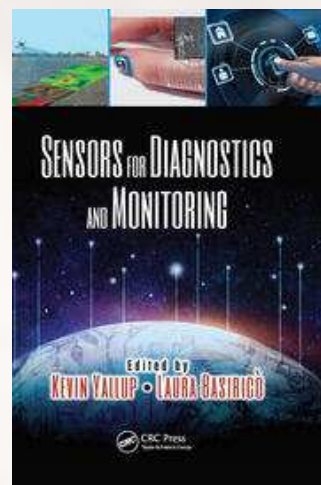
Source :Publisher

Zhang, Yu-Jin (2022).*2D Computer Vision: Principles, Algorithms and Applications*. New Jersey, World Scientific.

New Additions to the Collection

Sensors for Diagnostics and Monitoring

Sensor technologies and applications are evolving rapidly driven by the demand for new sensors for monitoring and diagnostic purposes to enable improvements in human health and safety. Simultaneously, sensors are required to consume less power, be autonomous, cost less, and be connected by the Internet of Things. New sensor technologies are being developed to fulfill these needs. This book reviews the latest developments in sensor technology and gives the reader an overview of the state-of-the-art in key areas, such as sensors for diagnostics and monitoring.
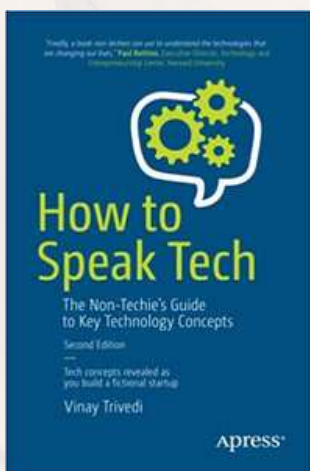
Source :Publisher
Yallup, Kevin (Ed.) (2019) *Sensors for diagnostics and monitoring.* Boaca Raton, CRC Press.

How to speak tech: The Non-techies's guide to key technolohy concepts

This book presents a compendium style account of a comprehensive mathematical journey from Arithmetic to Algebra. It contains material that is helpful to graduate and advanced undergraduate students in mathematics, university and college professors teaching mathematics, as well as some mathematics teachers teaching in the final year of high school. A successful teacher must know more than what a particular course curriculum asks for. A number of topics that are missing in present-day textbooks, and which may be attractive to students at the graduate or advanced undergraduate level in mathematics, for example, continued fractions, arithmetic progressions of higher order, complex numbers in plane geometry, differential schemes, path semigroups and path algebras, have been carefully presented. This reflects the aim of the book to attract students to mathematics.

Source :Publisher
Trivedi, Vinay(2019).*How to speak tech: The non-techies's guide to key technolohy concepts.* New York, Apress.

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👉 Machine learning for decision makers: Cognitive computing fundamentals for better decision making

👉 Mastering 3D printing: A guide to modeling, printing and prototyping

👉 Financial cybersecurity risk management Leadership perspectives and guidance for systems and institutions

👉 Docker for data science: Building scalable and extensible data infrastructure around the Jupyter notebook server

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👉 Technical communication

👉 Welcome problems, find success: Creating Toyota cultures around the world

👉 Research methodology for natural sciences

Achievements of the Year 2022

Paper Publications

- Adarsh, S., Anoop, V. S., & Asharaf, S. (2023). Distributed Consensus Mechanism with Novelty Classification Using Proof of Immune Algorithm. International Conference on Innovative Computing and Communications, 173–183.
- Arruda, E. F., Sharma, T., & Thomas, S. S. (2022). Epidemic Control Modeling using Parsimonious Models and Markov Decision Processes. ArXiv Preprint ArXiv:2206.13910.
- Bonam, S., Joseph, J., Kumar, C. H., Panigrahi, A. K., Vanjari, S. R. K., & Singh, S. G. (2022). Fabrication of On-Silicon Aperture Coupled Patch Antenna Through Micromachining and Cu-Cu Thermocompression Bonding. IEEE Transactions on Semiconductor Manufacturing, 35(4), 626–632.
- Chakravarthi, B. R., Priyadharshini, R., Muralidaran, V., Jose, N., Suryawanshi, S., Sherly, E., & McCrae, J. P. (2022). Dravidiancodemix: Sentiment analysis and offensive language identification dataset for Dravidian languages in code-mixed text. Language Resources and Evaluation, 1–42.
- Das, S., Saha, P., Adhurya, S., Ray, A., & Ray, S. (2022). Present and future scenarios of changing land use patterns from the perspective of agroecosystem under the shadow of ever-expanding shrimp culture. Environmental Development, 44, 100772.
- Datta, S., Dandapat, S., & Deka, B. (2022). A deep framework for enhancement of diagnostic information in CSMRI reconstruction. Biomedical Signal Processing and Control, 71, 103117.
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- James, A. P., & Chua, L. O. (2022). Variability-aware Memristive Crossbars-A Tutorial. IEEE Transactions on Circuits and Systems II: Express Briefs.
- Jennath, H. S., & Asharaf, S. (2022). An Efficient Cluster Assignment Algorithm for Scaling Support Vector Clustering. International Conference on Innovative Computing and Communications, 285–297.
- Krestinskaya, O., Salama, K., & James, A. P. (2022). Analog Image Denoising with an Adaptive Memristive Crossbar Network. 2022 IEEE International Symposium on Circuits and Systems (ISCAS), 3453–3457.
- Mogra, M., Aouti, R., Rakesh, N. S., Ahmed, A., Ashwin, R., Joseph, J., & Ananthasuresh, G. K. (2022). Analysis of a Soil-Moisture Sensor for Potential Failure Modes and Mass Manufacturing. In Machines, Mechanism and Robotics (pp. 1157–1167). Springer.
- Mukherjee, P., Sengupta, A., & Mazumdar, C. (2022). "Security Gap" as a metric for enterprise business processes. Security and Privacy, 5(6), e263.

- Nair, N., Akshaya, A. v, & Joseph, J. (2022). An In-Situ Soil pH Sensor With Solid Electrodes. IEEE Sensors Letters, 6(8), 1–4. doi:10.1109/LSENS.2022.3194200
- Nair, S. R., Menacherry, S. P. M., Renjith, S., Manojkumar, T. K., Aravind, U. K., & Aravindakumar, C. T. (2022). Oxidation reactions of carbaryl in aqueous solutions. Chemical Physics, 554, 111427.
- Pillai, S. v, & Dev, D. (2022). Dynamics of Gig Work Economy: An Investigation of Worker Perspectives on Gig Work. Online ISSN: 0976-173X, 215.
- Prakash, R., Anoop, V. S., & Asharaf, S. (2022). Blockchain technology for cybersecurity: A text mining literature analysis. International Journal of Information Management Data Insights, 2(2), 100112.
- Raghi, K. R., Sherin, D. R., Archana, T. M., Saumya, M. J., Sajesha, K. P., & Manojkumar, T. K. (2022). Identification of Potent ABL Inhibitors from Coumestrol: An Integrative In Silico Approach. Journal of Computational Biophysics and Chemistry, 21(8), 967–979.
- Raj, N., Ranjan, R. K., & James, A. (2022). Chua's Oscillator With OTA Based Memcapacitor Emulator. IEEE Transactions on Nanotechnology, 21, 213–218.
- Rajan, S. C., Dominic, L., Vishnu, M., Athira, K., Sooraj, N. P., & Jaishanker, R. (2022). Surrogacy of post natural disaster acoustic indices for biodiversity assessment. Environmental Challenges, 6, 100420.
- Reddy, B., Seetharamulu, B., Krishna, G. S., & Vani, B. V. (2022). An FPGA and ASIC Implementation of Cubing Architecture. Wireless Personal Communications, 1–13.
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