Digital University Kerala

Kerala University of Digital Sciences, Innovation and Technology

News Letter

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June 2022 News letter

LATEST NEWS UPDATES

e-Smrudha Project Inagurated

Hon. Minister for Animal Husbandry J Chinchurani inaugurated the pilot phase of RFID Based Animal Tracebaility and e-Health Management system under e-Samrudha project of the government at AGT Auditorium in Oamallur Panchayat in Pathanamthitta district on 30-05-2022. e-Samrudha is an IT initiative of the Animal Husbandry department that aims at complete digital transformation of the activities and services of the department. Through the RFID project, the department aims to collect data of dairy farmers and livestock. The benefits of the project include creation of a digital veterinary database, livestock traceability, improved delivery of veterinary services and disease control. Digital University Kerala, the country's first digital university established by Government of Kerala, is the implementing agency of this project. The RFID traceability system has been developed by the Centre for Digital Innovations and Project Development under Digital University Kerala. It is a first-of-its kind project that is being implemented in the country. As part of the project, injectable RFID tags are placed on the base of ear of the cattle. The tags are biocompatible and hence cattle can be tagged at the time of birth itself. Once tagged, the RFID can track an animal throughout its life. The officials concerned or the dairy farmers can avail the information transmitted by the RFID tag of each animal using a card reader or a smartphone app. This enables early detection of disease outbreaks and preventive actions can be taken promptly. The RFID will also help in identifying livestock with better immunity and productivity, whose population can then be increased through artificial insemination process and thereby increase the income of the farmers. Minister for Health and Family Welfare Veena George has presided over the inaugural function. Prof. Saji Gopinath, Hon. Vice Chancellor, DUK has delivered the key note address during the function. Prof. Ajith Kumar, Director of the CDIPD has delivered the talk on features of E-SMRUDHA during the technical session.

MoU between DUK and K-DISC to develop medical devices

An MoU was signed between DUK and K-DISC on 7th July 2022. Under this MoU, DUK will receive a funding of Rs. 71 lakhs over a period of three years for the research and development of three medical devices. The project will be implemented at the Centre for Affective and Neurocomputing (CAN) under the supervision of Dr. John Eric Steephen, School of Digital Sciences (PI) and Dr. Jose Joseph, School of Electronic Systems & Automation (Co-PI).

Value Addition Program For Information Kerala Mission Developers

To Empower the Developers from Government sector and make them to meet with new industry Trends, Digital university Kerala conducted a 5-day Software Application Development Course for Information Kerala Mission Developers from June 13 to June17, 2022.

Blockchain Excellency Program

Kerala Blockchain Academy have announced its new initiative “Blockchain Excellency Program”, a one year, paid internship program for young graduates interested in Blockchain Technology. The offline program is scheduled to begin on 12, September 22 at Kerala Blockchain Academy Campus, Technopark, Trivandrum. The program will provide blockchain-interested candidates with the opportunity to work in a truly blockchain environment with a team of peers to improve their analytical and technical skills. Besides mentoring, the candidates will be allowed to participate in brainstorming sessions, presentations, and development workshops to identify their potential and thereby build a professional portfolio in the blockchain world.

FACULTY PUBLICATIONS

Dr. Jose and his team published a paper on the in-situ sensing of soil pH. This technology can help avoiding the conventional laborious soil pH measurement practice by facilitating soil pH measurements on field.
The paper can be accessed here:
(N. Nair, A. A. V and J. Joseph, "An In-Situ Soil pH Sensor With Solid Electrodes," in IEEE Sensors Letters, vol. 6, no. 8, pp. 1-4, Aug. 2022, Art no. 2000104,
doi: 10.1109/LSENS.2022.3194200.
https://ieeexplore.ieee.org/document/9842304)

AWARDS

Women Scientists Scheme-A (WOS-A)

Smt. Sabitha Rani Bs. Research Scholar Digital University Kerala won the Women Scientist Scheme – A (WOS-A) fellowship offered by the Department of Science and Technology, Government of India for the project 'A Novel BCI Technology based Imagined Speech Recognition for Speech Disabled Community'

Mrs Teenu S. John , a research scholar under Dr. Tony Thomas has won the Normal Innovation Track Challenge of Young Innovators Programme organised by KDISC

Mrs Teenu S. John , a research scholar under Dr. Tony Thomas won the Normal Innovation Track challenge of the Young Innovators Programme under Kerala Development and Innovation Strategic Council (K-DISC) for developing a mechanism to detect mobile malware. She became one of the top eight finalists to receive a fund of 2,00,000 for developing the mechanism as a product.

EVENTS CORNER

International Day of Yoga - 21 June 2022 Celebrated

DUK has celebrated International yoga day on 21 June 2022. The event comprised of various activities such as yoga practice & demonstration sessions and talk on yoga's importance. The following programs were organized by the university: Banners about celebrations of International Yoga Day were prominently displayed. 20 posters related to the importance of yoga, various yoga asanas and their benefits were prominently displayed on the ground floor of the main building. One week yoga training session was arranged in the University main building (15.06.2022 to 21.06.2022) from 07:00 am to 08:00 am handled by the yoga trainer Ms.Chitra M.S(Joint Secretary GAD, Registrar ICFOSS). An interactive session from 11:30 am to12:30 pm on "Focuss and De-stress through Yoga" was delivered by Mrs.Uma Kalyani, Registered Dietitian and Yoga Trainer, Founder and Director of UmasNutriyoga.

Training Program for Mentors of ODOI (One District One Idea) Institutions

Kerala University of Digital Sciences Innovation and Tehcnology and K-DISC and through its district arms, the District Innovation Councils (DICs) have initiated the One District One Idea – MSME Innovation Clusters programme (ODOI). In districts core groups consisting of General Manager Industries, District Mission Coordinators/Assistant Mission Coordinators in charge of Micro Enterprise Development and Startup Village Extension Programme, faculty from the Commerce and Economics Departments in Arts and Science Colleges, Mentors of K-DISC As a part of this programme clusters have been shortlisted and the district core groups have started collecting preliminary details of the clusters. Based on the attitudes and capabilities of the clusters a few clusters are likely to be shortlisted for promotion as innovation clusters. These are likely to be allotted to academic institutions shortlisted under this EOI for action plan development and for development as innovation clusters.

KNOWLEDGE CENTRE NEWS

Software of the Month

>>> OpenShot Video Editor

https://www.openshot.org/download

OpenShot Video Editor is an award-winning, open-source video editor, available on Linux, Mac, and Windows. You can create stunning videos, films, and animations with an easy-to-use interface and rich set of features of this software.
OpenShot Video Editor is free software. The latest and greatest version of OpenShot Video Editor for Linux, Mac, and Windows can be downloaded from the official download page at https://www.openshot.org/download/. Using OpenShot is very easy. OpenShot can read and write most video and image formats. Tracks are used to layer images, videos, and audio in a project. You can create as many layers as needed, such as watermarks, background audio tracks, background videos, etc. Over 400 transitions are included in OpenShot, which lets you gradually fade from one clip to another. Make use of this wonderful software to make videos.

Website of the Month

>>> Pixabay

https://pixabay.com/

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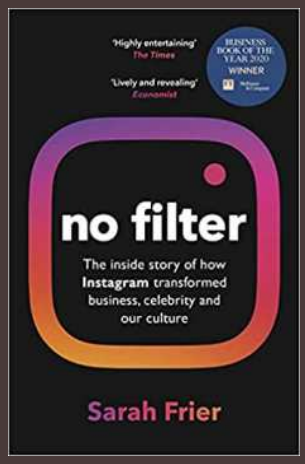
BOOK REVIEW OF THE MONTH



No filter by Sarah Frier

I've seen a generation of Insta-addicted youth and wondered what is so addictive about Instagram. I stumbled upon the book "no filter" by Sarah Frier by chance. And I am glad I did. I got my answers!

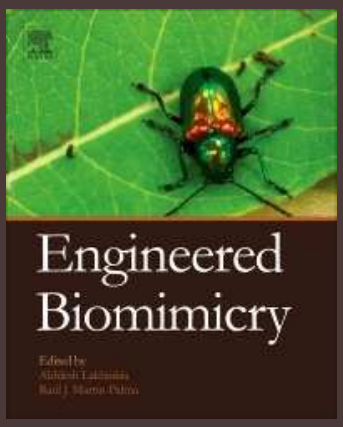
This book takes you on the journey of its founders, Systrom and Krieger, how the idea of Instagram evolved, and the thoughts that went behind the development of Instagram. Systrom who was interested in learning photography joined a photography class in Florence where his teacher took his high-quality camera from him and gave him a relatively primitive device called Holga that only took blurry, square black and white photographs. He also told Systrom, "You have to learn to love imperfection". Years down the lane, when Systrom designed Instagram, he stuck to this idea. The founders decided to do only one thing when they decided to develop their app- photography - and decided to do it well. They wanted their App to solve the problems of existing photo apps such as the huge time taken for photos to load over a 3G cellular network, user embarrassment of sharing low-quality phone snaps and having to post the photos on many different platforms. They introduced the concept of filters from the initial stage itself. Then the founders picked their first users carefully, courting people who would be good photographers - especially designers who had high Twitter follower counts. Those first users would help set the right artistic tone, creating good content for everyone else to look at it, in what was essentially the first-ever Instagram influencer campaign, years before that would become a concept. Before you know it, Instagram has taken over the world.

Sherin Noordheen
Senior Consultant / Senior Analyst

If you are an Instagram user who wants to know more about "behind the scenes" or how Instagram rewired the way a generation thinks about celebrity and success, I highly recommend reading this book!

NEW ADDITIONS TO THE COLLECTION

Engineered Biomimicry



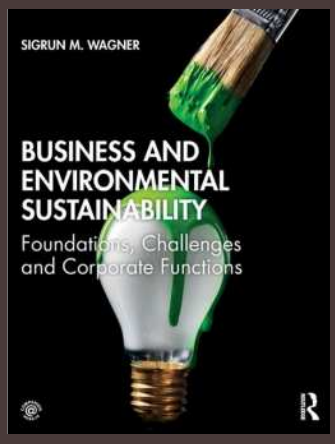
Engineered Biomimicry covers a broad range of research topics in the emerging discipline of biomimicry. Biologically inspired science and technology, using the principles of math and physics, has led to the development of products as ubiquitous as Velcro™ (modeled after the spiny hooks on plant seeds and fruits). Readers will learn to take ideas and concepts like this from nature, implement them in research, and understand and explain diverse phenomena and their related functions.

From bioinspired computing and medical products to biomimetic applications like artificial muscles, MEMS, textiles and vision sensors, Engineered Biomimicry explores a wide range of technologies informed by living natural systems. Engineered Biomimicry helps physicists, engineers and material scientists seek solutions in nature to the most pressing technical problems of our times, while providing a solid understanding of the important role of biophysics. Some physical applications include adhesion super hydrophobicity and self-cleaning, structural coloration, photonic devices, biomaterials and composite materials, sensor systems, robotics and locomotion, and ultra-lightweight structures.

-Source: Publisher

Lakhtakia, Akhlesh (2013) Engineered biomimicry

Business and Environmental Sustainability: Foundations, Challenges and Corporate Functions

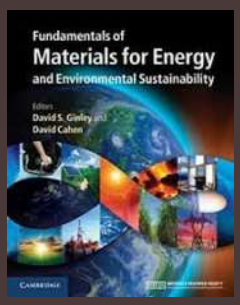


Environmental sustainability is increasingly important to organisations, whether for regulatory, financial or ethical reasons. Business and Environmental Sustainability looks at the environmental aspect of sustainability for all organisations pursuing competitive advantage. The book provides theoretical foundations from science, economics, policy and strategy, introduces three environmental challenges (climate change, pollution and waste).

-Source: Publisher

Wagner, Sigrun M.(2021) Business and environmental sustainability: Foundations, challenges and corporate functions

Fundamentals of Materials for Energy and Environmental Sustainability



This book will help enable today's scientists and educate future generations. How will we meet rising energy demands? What are our options? Are there viable long-term solutions for the future? Learn the fundamental physical, chemical and materials science at the heart of: · Renewable/non-renewable energy sources · Future transportation systems · Energy efficiency · Energy storage Whether you are a student taking an energy course or a newcomer to the field, this book will help you understand critical relationships between the environment, energy and sustainability. Leading experts provide comprehensive coverage of each topic, bringing together diverse subject matter by integrating theory with engaging insights. Each chapter includes helpful features to aid understanding, including a historical overview to provide context, suggested further reading and questions for discussion. Every subject is beautifully illustrated and brought to life with full color images and color-coded sections for easy browsing, making this a complete educational package.

-Source: Publisher

Ginley, David S (2012) Fundamentals of materials for energy and environmental sustainability

Mastering Reinforcement Learning with Python: Build Next Generation, Self-learning Models Using Reinforcement Learning Techniques and Best Practices

Reinforcement learning (RL) is a field of artificial intelligence (AI) used for creating self-learning autonomous agents. Building on a strong theoretical foundation, this book takes a practical approach and uses examples inspired by real-world industry problems to teach you about state-of-the-art RL.

This book covers the following exciting features:

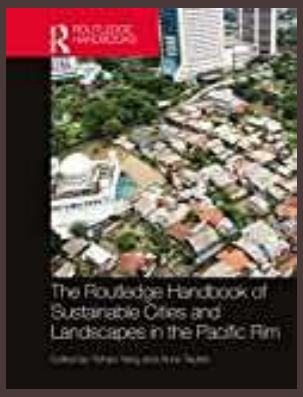
- Model and solve complex sequential decision-making problems using RL
- Develop a solid understanding of how state-of-the-art RL methods work
- Use Python and TensorFlow to code RL algorithms from scratch

Bilgin, Enes (2020) Mastering reinforcement learning with python: Build next generation, self-learning models using reinforcement learning techniques and best practices

-Source: Publisher

Bilgin E. (2020). Mastering reinforcement learning with python : build next-generation self-learning models using reinforcement learning techniques and best practices. Packt Publishing.

The Routledge Handbook of Sustainable Cities and Landscapes in the Pacific Rim



This handbook addresses a growing list of challenges faced by regions and cities in the Pacific Rim, drawing connections around the what, why, and how questions that are fundamental to sustainable development policies and planning practices. These include the connection between cities and surrounding landscapes, across different boundaries and scales; the persistence of environmental and development inequities; and the growing impacts of global climate change, including how physical conditions and social implications are being anticipated and addressed.

Building upon localized knowledge and contextualized experiences, this edited collection brings attention to place-based approaches across the Pacific Rim and makes an important contribution to the scholarly and practical understanding of sustainable urban development models that have mostly emerged out of the Western experiences. Nine sections, each grounded in research, dialogue, and collaboration with practical examples and analysis, focus on a theme or dimension that carries critical impacts on a holistic vision of city-landscape development, such as resilient communities, ecosystem services and biodiversity, energy, water, health, and planning and engagement.

-Source: Publisher

Yang, Yizhao (2022) The Routledge handbook of sustainable cities and landscapes in the Pacific Rim

Scientific Method for Ecological Research

Scientists tend to take the thought processes that drive their research for granted, often learning them indirectly by observing first their supervisors and then their colleagues. This book emphasises the advantages of being explicit about these thought processes and aims to help those undertaking ecological research to develop a critical attitude to approaching a scientific problem and constructing a procedure for assessment.

The outcome is a text which provides a framework for understanding methodological issues and which assists with the effective definition and planning of research. As such it represents a unique resource for anyone embarking on their research career. It also provides a valuable source of information for those more experienced researchers who are seeking to strengthen the methodology underlying their studies or who have an interest in the analysis of research methods in ecology.

-Source: Publisher

Ford, David E (2000) Scientific method for ecological research

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- Product design and development by Karl T. Ulrich
- The design thinking toolbox: A guide to mastering the most popular and valuable innovation methods by Michael Lewrick
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