IN PERSPECTIVE

NEWSLETTER APRIL 2024

ITU AND NASTP EXPLORE AREAS OF COLLABORATION

Information Technology University and National Aerospace Science and Technology Park (NASTP) officials held a detailed meeting to explore avenues of collaboration and mutual growth.

Chief Director Academics, Air commodore Mr. Shahzad Arshad, NASTP shared the vision of PAF for indigenous development and the future prospects available under NASTP industry-academia linkage model.

ITU Vice Chancellor Prof. Dr. Adnan Noor Mian led the meeting from ITU along with Director ORIC Dr. Rehan Hafiz and faculty experts.

Participants discussed areas of collaboration and appreciated the vital role of research and innovation spearheaded by leading educational institutions in Pakistan. This initiative is aimed at enhancing PAF's operational capabilities through indigenization

ITU AND WWF-PAKISTAN JOIN HANDS FOR CONSERVATION OF NATURE IN PAKISTAN

ITU Vice Chancellor Prof. Dr. Adnan Noor Mian and Director General/CEO WWF-Pakistan Mr. Hammad Naqi Khan signed a Memorandum of Understanding. It will pave the way for joint initiatives for conservation of nature in Pakistan in key thematic areas: Freshwater, Wildlife, Oceans, Forests, Climate & Energy, Foods & Markets, and Policy and Governance to promote sustainable development.

In particular, WWF-Pakistan and ITU will exchange latest research trends that integrates technology, data analytics, and environment and create research and mentorship opportunities for ITU students.

On this occasion, Professor and Dean of Faculty of Engineering Dr. Tauseef Tauqeer, Professor Department of Computer and Software Engineering Dr. Rehan Hafiz and ITU Registrar Mr. Adeel Asghar were also present.

LANDMARK ACHIEVEMENT: COMPUTER SCIENCE DEPARTMENT PUBLISH FOUR PATH BREAKING PAPERS AT THE PRESTIGIOUS COMPUTER VISION AND PATTERN RECOGNITION CVPR 2024

Spearheaded by Dean of Faculty of Sciences Dr. Arif Mahmood, the Department of Computer Science at ITU has received acceptance for four papers at the most prestigious Conference on Computer Vision and Pattern Recognition (CVPR) 2024. Dr. Arif Mahmood is author of three of these four papers.

It is a tremendous achievement, reflecting the hard work, dedication, and innovation of researchers at ITU.

Research Publication

DiffuseMix: An Effective Image Augmentation Approach Driven by Vision-Language Diffusion Models

Accepted in *Conference on Computer Vision and Pattern Recognition (CVPR) 2024*

Authors:

Khawar Islam · Zaigham Zaheer · Prof. Dr. Arif Mahmood · Karthik Nandakumar

Department of Computer Science

The research paper titled, "Diffusemix: An Effective Image Augmentation Approach Driven by Vision-Language Diffusion Models" is one of the foremost research breakthroughs in its subject area. The paper delves into innovative applications of Diffusion Models. This paper is a collaborative effort made possible only after researchers from diverse streams of research and academia came together to explore how Diffuse Models can be uniquely applied for data augmentation. Authors include ITU Dean of Faculty of Sciences Dr. Arif Mahmood, Research Scientist Computer Vision Khawar Islam, Postdoctoral Research Fellow at Mohamed bin Zayed University of AI Zaigham Zaheer and Associate Professor MBZUAI Karthik Nandakumar.

Research Publication

CPLIP: Zero-Shot Learning for Histopathology with Comprehensive Vision-Language Alignment

Accepted in *Conference on Computer Vision and Pattern Recognition (CVPR) 2024*

Authors:

Sajid Javed · Prof. Dr. Arif Mahmood · Iyyakutti Iyappan Ganapathi · Fayaz Ali Dharejo · Naoufel Werghi · Mohammed Bennamoun

Department of Computer Science

This paper proposes Comprehensive Pathology Language Image Pre-training (CPLIP), a new unsupervised technique designed to enhance the alignment of images and text in histopathology for tasks such as classification and segmentation. Evaluated across multiple histopathology tasks, CPLIP shows notable improvements in zero-shot learning scenarios, outperforming existing methods in both interpretability and robustness.

Authors include ITU Dean of Faculty of Sciences Dr. Arif Mahmood, Assistant Professor of Computer Vision at Khalifa University Sajid Javed, Post-Doc Fellow at KU Iyyakutti Iyappan Ganapathi, Post-Doc fellow at KU Fayaz Ali Dharejo and Mohammed Bennamoun, Withrop Professor at The University of Australia.

Research Publication

Improving Single Domain-Generalized Object Detection: A Focus on Diversification and Alignment

Accepted in *Conference on Computer Vision and Pattern Recognition (CVPR) 2024*

Authors:

Muhammad Sohail Danish · Dr. Muhammad Haris Khan · Muhammad Akhtar Munir · Dr. Muhammad Saquib Sarfraz · Dr. Mohsen Ali

Department of Computer Science

This research work tackles single-domain generalization object detection with a two-step approach involving domain diversification through augmentations and alignment of detections based on class prediction confidence and localization resulting in better generalized and well-calibrated models. Authors include Muhammad Sohail Danish, PhD student at MBZUAI and MS Data Science ITU alumnus, Dr. Muhammad Haris Khan, Assistant Professor at MBZUAI, Muhammad Akhtar Munir, PhD student at ITU, Dr. Saquib Sarfaraz, Deep Learning Lead at Mercedes-Benz and Dr. Mohsen Ali, Associate Professor Department of Computer Science.

Research Publication

Pose-Guided Self-Training with Two-Stage Clustering for Unsupervised Landmark Discovery

Accepted in *Conference on Computer Vision and Pattern Recognition (CVPR) 2024*

Authors:

Siddharth Tourani · Ahmed Alwheibi · Prof. Dr. Arif Mahmood · Muhammad Haris Khan

Department of Computer Science

ULD for an object category is a challenging Computer Vision problem. It is involves discovery of object landmarks on a set of images depicting objects of the same category, directly from raw images without using any manual annotations. This paper explores potential of a recent paradigm of self-supervised learning algorithms known as diffusion models.

It is authored by ITU Dean of Sciences Dr. Arif Mahmood, PhD student at Heidelberg Siddharth Tourani, graduate student MBZUAI Ahmed Alwheibi and Assistant Professor MBZUAI Haris Khan.

SEMINAR SERIES ON AI, BIG DATA AND PUBLIC POLICY

Society of Public Policy – Policy Baithak and the Society of Economics Aggregate and Policy (SECP) has started a seminar series on AI, Big Data and Public Policy.

ALGORITHMS BIASES AND ITS IMPLICATIONS

The first thematic session of this series was titled 'Algorithms Biases and its Implications'. Led by two research scholars Anam Khalid and Usama Rashid, this session enlightened the participants about different dimensions of AI.

Dr. Abiha Zahara gave preliminary statement while Dr. Imdad Hussain gave reflections on the presentations of researchers. Mr. Aqib, AI researcher at Bitlogiclx shared the experience of AI developers. Dr. Yaqoob Khan Bangash, Dean Faculty of Humanities & Social Sciences, stressed to ponder further on the issues and bring it at the policy level. He also distributed certificates among the participants and ensured his support for this initiative to bring researcher students and faculty, market and government together to stimulate a meaningful dialogue on AI, Big Data and Public Policy.

This session was attended by the students of Computer Science, Public Policy, AI Developer, Technology Management, Big Data and Economics.

NAVIGATING INTERSECTION BETWEEN AI BIG DATA AND RIGHT

The second thematic session was titled 'Navigating Intersection between AI Big Data and Right'. Speaker Mr. Aqib Mumtaz, lead AI Researcher, stressed that in today's rapidly evolving digital landscape, the intersection of AI, Big Data, and Ethics poses a myriad of challenges for policymakers.

Balancing the potential benefits of these technologies with concerns about privacy, bias, and accountability requires a thoughtful and targeted public policy response. While Mr. Bilal Ahmad said that it is essential for policymakers to navigate this complex intersection with a focus on protecting individual rights while promoting innovation and economic growth.

The session concluded that key issues to consider include the development of regulatory frameworks to ensure transparency and accountability in the use of AI and Big Data, as well as addressing potential biases and discrimination that may arise.

Additionally, policymakers must work to establish clear guidelines for the ethical use of these technologies, particularly in sensitive areas. Dr. Imdad Hussain, in his reflective conclusion stressed that ultimately, a collaborative approach involving government, industry, academia, and civil society is needed to address the challenges and opportunities presented by the intersection of AI, Big Data, and Rights.

Working together can ensure that these technologies are harnessed for the benefit of society while protecting fundamental rights and values.

The session was attended by the students of Public Policy, Computer Sciences, Economic & Data Analytics.

UNMASKING THE PROMISES OF AI AND BIG DATA: REVOLUTIONIZING GOVERNANCE OR A PASSING TREND

The third thematic session was titled 'Unmasking the Promises of AI and Big Data: Revolutionizing Governance or a Passing Trend?' This session featured esteemed speakers Dr. Yaqoob Khan Bangash, Dr. Imdad Hussain, and Abdullah Kharal. The session focused into the transformative potential of AI and Big Data in governance, exploring their capacity to enhance transparency, efficiency, and decision-making. The speakers discussed the opportunities and challenges of leveraging these technologies, highlighting success stories and addressing concerns about data privacy and ethical considerations.

The session provided valuable insights, sparking meaningful discussions on harnessing AI and Big Data for sustainable governance and development.

The session stressed to devise the policy related to AI regulation and promotion by giving attention to the Pakistani Punjab's socio cultural and economic context.

CHAIRPERSON DEPT. OF GOVERNANCE AND GLOBAL STUDIES DR. ABIHA ZAHRA PUBLISHES HER RESEARCH

Chairperson Department of Governance and Global studies Dr. Abiha Zahra, has published her paper titled, "Creation of State Organizations: Experiments with Ideal-type Reform Models in a Non-Western Country" in Public Management Review. It is Q1 and W category journal ranked among top 5 journals in the HEC categorization of Public Administration journals having an impact factor of 5.8. Dr. Zahra has authored this paper along with Professor Geert Bouckaert from KU Leuven Public Governance Institute. The article traces the trajectory of reform in Pakistan over time using a hierarchy-market-networks framework. It finds evidence of layering and co-existence of hierarchical, network and NPM elements.

Research Publication

Creation of State Organizations: Experiments with Ideal-type Reform Models in a Non-Western Country

Published in *Public Management Review*

Dr. Abiha Zahra
Chairperson Department of
Governance and Global studies, ITU

Geert Bouckaert
Professor KU Leuven
Public Governance Institute

RESEARCH METHODS WORKSHOP HELD BY DEPARTMENT OF GOVERNANCE AND GLOBAL STUDIES

The Department of Governance and Global Studies organized a session of its research methods workshops series.
The session was titled "Measurement Scale and Choice of Statistical Method for Empirical Analysis" and it was led by Dr. Farrukh Mahmood, Assistant Professor at the Department of Economics in ITU. Participants learned statistical methods for empirical analysis and topics such as data types, data visualization techniques, and the identification of spurious relationships.

FACULTY RESEARCH COLLOQUIUM HIGHLIGHTS DIVERSIFICATION AND CLASS FORMATION IN PAKISTANI PUNJAB

The Faculty of Humanities and Social Sciences at ITU organized another round of its Faculty Research Colloquium. In this session, Chairperson of the Department of Economics Dr. Muhammad Ali Jan presented his research titled "Beyond Rural Differentiation: Diversification and Class Formation in Pakistani Punjab."

Faculty Research Colloquium helps faculty members present their current research and receive valuable comments from the participants.

It is an initiative taken recently by the Faculty of Humanities and Social Sciences that organizes a session every two weeks. These sessions also help in team building and potential collaborations.

FACULTY RESEARCH COLLOQUIUM HIGHLIGHTS PHENOMENOLOGICAL ANALYSIS OF THE SOCIAL REALITY IN PUNJABI PROVERBS

The Faculty of Humanities and Social Sciences at ITU earlier organized Faculty Research Colloquium. In this session, Dr. Aftab Nasir, Assistant Professor at the Department of Governance and Global Studies, presented his research titled "Back to Square One: A Phenomenological Analysis of the Social Reality in Punjabi Proverbs."

Faculty Research Colloquium helps faculty members present their current research and receive valuable comments from the participants. It is an initiative taken by the Faculty of Humanities and Social Sciences that organizes a session every fortnight.

ITU VC INTERACTS WITH HEC OFFICIALS POST VICE CHANCELLORS' CONFERENCE BY PHEC

Punjab Higher Education Commission (PHEC) organized a one-day Vice Chancellors' conference on Quality Assurance, uniting Vice Chancellors from across Punjab's public and private sector universities, in collaboration with Higher Education Commission Pakistan. Deliberations regarding improvement of quality of education in universities and colleges were made and future pathways in several key areas were.

Catch glimpses from post conference huddle by ITU Vice Chancellor Prof. Dr. Adnan Noor Mian. Director Higher Education Commission Islamabad, Dr. Amjad Hussain DG (A&A) HEC, and Mr. Nasir Shah DG (QAA) HEC were also present.

PAKISTAN ENGINEERING COUNCIL DELEGATION VISITS ITU

A delegation of Pakistan Engineering Council visited Information Technology University for re-accreditation of BS Computer Engineering program batch 2020.

It composed of Engr. Prof. Dr. Laiq Hassan as the Convener and Engr. Haroon Afridi as Rep PEC Regional Office.

The esteemed delegation learned about progress updates of BS Computer Engineering program through a comprehensive presentation.

The presentation was followed by interaction with the members of faculty and students.

ITU STUDENT SECURES PHD FELLOWSHIP AWARD BY SWISS NATIONAL SCIENCE FOUNDATION

Congratulations to our PhD fellow Ehtasham Naseer on receiving the prestigious Swiss National Science Foundation (SNSF) PhD fellowship award. He is currently pursuing doctoral research at the Remote Sensing & Spatial Analytics Lab at ITU. He will be part of the SNSF-funded project titled "Towards a large-scale landslide hazard assessment scheme based on time series analysis of satellite radar interferometry". We wish him good luck for his future endeavors.

INFORMATION TECHNOLOGY
UNIVERSITY OF THE PUNJAB

CONGRATULATIONS
to Mr. Ehtasham Naseer on receiving the prestigious Swiss National Science Foundation PhD fellowship award.

Ehtasham Naseer
PhD Fellow, RSA Lab ITU
Department of Electrical Engineering

ITU'S DR. ABIHA ZAHRA PARTICIPATES IN CONSULTATION SESSION ON CLIMATE CHANGE POLICY OF PUNJAB

The Department of Governance and Global Studies at ITU had the honor and privilege of participating as an academic stakeholder and expert in the consultation session on 'Draft Climate Change Policy of Punjab'.

This initiative brought academia, government bodies and industry under one roof for thorough discussion on the draft policy wherein required changes for an effective final draft were proposed.

Chairperson of the Department of Governance and Global Studies Dr. Abiha Zahra represented ITU in the consultation process.

EARTH DAY:IEEE GRSS HOSTS SESSION ON CONSERVATION AND SUSTAINABLE PRACTICES

To mark the significance of the Earth Day, IEEE Geoscience and Remote Sensing Society (GRSS) Lahore Chapter hosted an engaging session highlighting the importance of conservation and sustainable practices. Esteemed guest speakers included Dr. Adnan Siddique, Assistant Professor at ITU and Remote Sensing Specialist, and Rabia Munsaf, Fulbright Scholar from State University of New York. They discussed insights and ideas from their experience while developing environmental technologies. Students from diverse academic streams attended this insightful event.

PROJECT MANAGEMENT:IET ON CAMPUS ITU HOSTS SESSION ON AGILE METHODOLOGIES

IET on Campus ITU hosted an insightful session by Mr. Muhammad Jahanzeb Akbar, a seasoned program specialist, on Agile methodologies.

The session covered Agile Manifesto, Scrum methodology, and effective project management strategies.

Mr. Akbar's expertise enriched participants' understanding and provided valuable takeaways for embracing Agile principles effectively.

Students also had the opportunity to participate in a quiz at the end of the session, which further enhanced their learning and solidified their understanding of the Agile concepts.

ROBOTICS BOOTCAMP HELD

Lincoln Corner Lahore organized a 2-day 'Robotics Bootcamp' in collaboration with WinSci and UET Mechatronics Club. In this engaging bootcamp, participants got hands-on experience with expert guidance and collaborated on creative projects.

They also delved into interactive sessions on microcontrollers, Arduino hardware and programming.

POSTER COMPETITION SHEDS LIGHT ON POVERTY AND INEQUALITY IN DEVELOPING COUNTRIES

A poster competition was organized by Dr. Kafeel Sarwar, Assistant Professor, Department of Economics, bringing together the faculty and students from the Faculty of Humanities and Social Sciences.

The competition was held under the theme of "Poverty and Inequality in Developing Countries."

The posters presented during the competition offered empirical and visual insights into the socio-economic disparities and poverty within developing countries, with a special focus on Pakistan.

In the end, cash prizes were distributed for the best posters. In the MS category, Mr. Khurram Afzal Malik secured the first prize, with Mr. Jehan Zaib as the runner-up.

In the BS category, Mr. Zeeshan Haider and Mughees Ahmed clinched the first prize, while Haniya Fatima and Malaika Ayub secured the second prize.
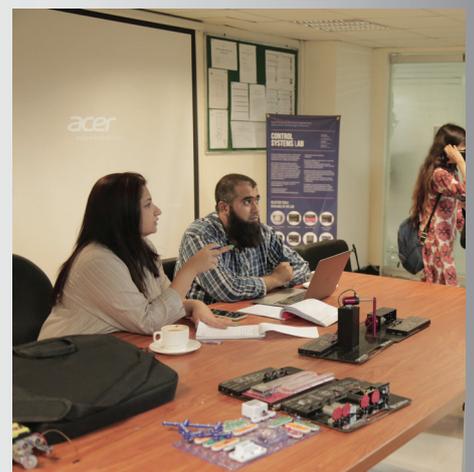

RECRUITMENT DRIVE BY HR FORCE INTERNATIONAL HELD

Student Services and Placement Office in collaboration with HR Force International organized a Recruitment Drive in Information Technology University.

HR Force International is a renowned organization known for its commitment to excellence and providing valuable career opportunities to talented individuals in the IT sector.

This drive offered an excellent chance to students to explore potential internship placements, kick start their career or even secure a full-time position.

INSIGHTFUL SESSION HIGHLIGHTS ONGOING GENOCIDE IN PALESTINE

More than 200 days have passed since Israel's invasion of Gaza. At least 35000 Palestinians have been killed and 75000 injured.

The war which started months ago is now transforming itself into a genocide with little Israeli regard for human rights.

In this regard, an insightful session was led by Professor Fawzia Afzal Khan from Montclair State University, USA. While interacting with the students she talked about the history of the conflict, its understanding in the United States, and how the current conflict has led to protests across universities in the US, reminiscent of anti-Vietnam protests decades ago.

ITU CELEBRATES EID UL FITR

Information Technology University wishes you all a happy and prosperous Eid filled with love, laughter, and the warmth of family and friends.

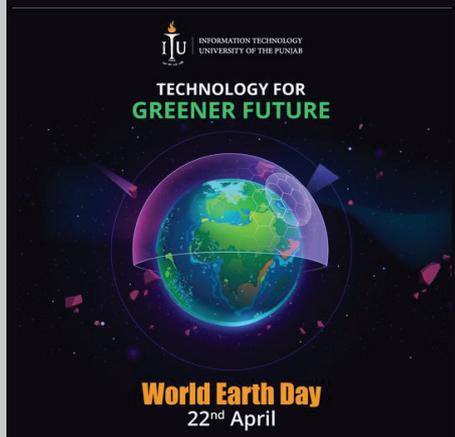May this Eid bring you and your loved ones abundant joy, peace, and blessings.
Let's cherish the moments of togetherness, gratitude, and reflection that this Eid brings..

ITU MARKS INTERNATIONAL EARTH DAY

As Earth Day is being observed all over the world, lets vow to understand our responsibilities toward Mother Earth and take care of our home.The 2024 theme, "Planet vs. Plastics", is aimed at raising awareness of the harms of plastic pollution for human and planetary health. A range of environmental issues have been highlighted in the past ranging from climate change and clean energy to protecting species and the benefits of tree planting.

ITU has had a longstanding commitment to clean and green energy, tree plantation and sustainable development.

ITU PARTNERS WITH STARTUP COMPETITION PAKISTAN 2024

ITU is pleased to share that the Office of Research, Innovation and Commercialization (ORIC) is partnering with Tech Valley Pakistan as a community partner to promote the Google Cloud Startup Competition 2024.

Startup Competition Pakistan 2024 has been launched by Google Cloud.
It aims to unearth the nation's most promising tech ventures and empower them to take centre stage on the regional innovation map.

ITU OBSERVES ALLAMA MUHAMMAD IQBAL'S DEATH ANNIVERSARY

On 86th death anniversary of Allama Muhammad Iqbal being observed, Information Technology University pays rich tribute to the poet-philosopher of the East.

He was a great poet, thinker, and philosopher who infused a revolutionary spirit in the Muslim youth of the subcontinent at the time through his poetry.
He is credited with conceiving the idea of a separate homeland for the Muslims of the Sub-continent ultimately materializing in the shape of Pakistan.