



विज्ञान एवं
प्रौद्योगिकी मंत्रालय
MINISTRY OF
SCIENCE AND
TECHNOLOGY

75
Azadi Ka
Amrit Mahotsav



IEEE
UP SECTION (INDIA)

EV CONCLAVE 2023

DRIVING THE FUTURE: CONFLUENCE
OF DATA ANALYTICS AND ELECTRIC
MOBILITY



**16-17
DEC 2023**

ABOUT

IIT (BHU) VARANASI

IIT (BHU) Varanasi, formerly known as BENCO, MINMET, TECHNO, and IT-BHU, has its roots intertwined with Banaras Hindu University (BHU). Founded by Pt. Madan Mohan Malaviya, BHU pioneered degree classes in Mechanical Engineering, Electrical Engineering, Metallurgy, and Pharmaceutics. Over time, various departments emerged, leading to the formation of the College of Mining and Metallurgy (MINMET).

In 1968, BENCO, TECHNO, and MINMET merged to create IT-BHU, encompassing multiple engineering disciplines. The shift to a unified admission process occurred in 1972. Attempts to convert IT-BHU into an IIT began in 1972 and was realized in 2012.

The Department of Architecture, Planning, and Design was established in 2019-2020. The institute celebrated its centenary in 2019-2020, marking the re-erection of the iconic BENCO chimney. The transition to IIT status in 2012 solidified its place among premier technical institutions in India.

I-DAPT HUB FOUNDATION

IIT (BHU) is leading a National Mission on Data Analytics and Predictive Technologies (DAPT) for the next five years. With a century of expertise, the institute aims to impact sectors like telecommunications, power, defence, and healthcare through DAPT. The mission encompasses technology development, establishing centres of excellence, HRD, skill development, innovation, entrepreneurship, and international collaborations.

IIT (BHU)'s strengths in Power Electronics, Data Science, ICT and more will drive research and development in DAPT. The mission seeks to empower critical infrastructure, enhance cybersecurity, and positively impact daily lives. Collaboration with industry and startups is emphasized, focusing on economic growth.

Skill development for DAPT deployment is a priority, meeting emerging demands across sectors. The mission plans to implement research collaborations with international institutions, fostering interdisciplinary approaches in DAPT and associated research.

HIGHLIGHTS OF THE CONCLAVE!

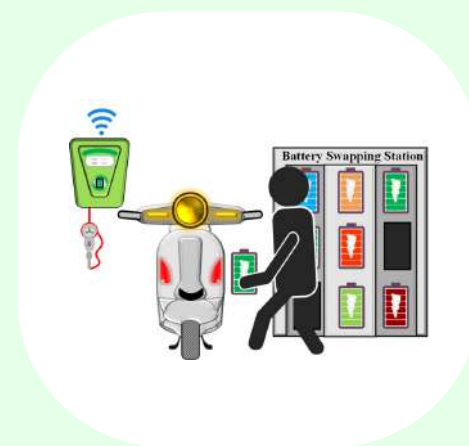
- Session on Energizing India: Unveiling Electric Vehicle Trends, Policy Initiatives, and Roadblocks.
- Session on high power density components for electric vehicles.
- Session on next-gen Charging Technology for Electric Vehicles
- Session on Smartening Up the Roads: Data-Driven Insights for Electric Vehicle Technology
- Session on batteries and battery management system (BMS)



CHARGING STATIONS



GREEN HYDROGEN TECHNOLOGY



BATTERY SWAPPING



DATA DRIVEN CHARGING INFRA



CHARGING STANDARDS

WHAT TO EXPECT OUT OF THIS CONCLAVE?



SMART BATTERIES



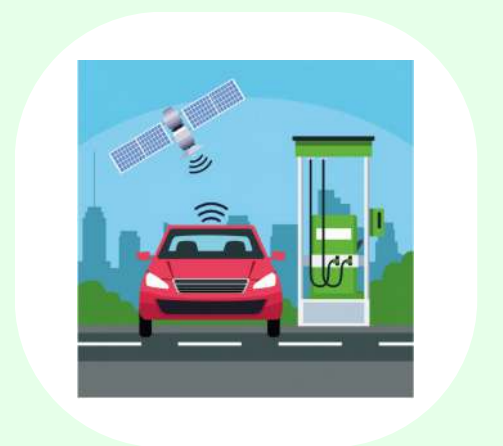
EV POLICIES



RENEWABLE INTEGRATION OF EVS



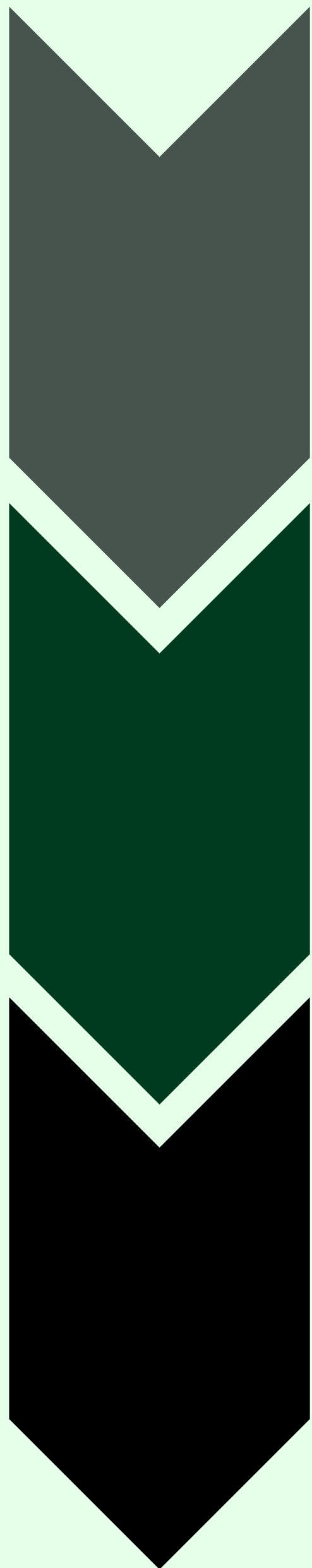
BATTERY MANAGEMENT SYSTEM



EV POLICIES



WHAT DAY 1 HAS FOR YOU?



10:00-11:30 AM

INAUGURAL AND HIGH TEA

11:30 AM - 02:45 PM

SESSIONS: EV MARKET, POLICY & TENDER OVERVIEW

**SUNITA VERMA (MEITY),
HITESH BHARDWAJ (MITSUBISHI),
TAPAN SAHOO (MARUTI SUZUKI)**

NETWORKING LUNCH

02:45 - 06:15 PM

SESSIONS: NEW GEN CHARGING TECH FOR EVS

**KALPATHI S. SURESH (VERANDA LEARNING),
SANTANU K. MISHRA (CART, IIT DELHI),
OM KRISHAN SINGH (MEITY),
AKSHAY K. RATHORE (SIT SINGAPORE)**

PANEL DISCUSSION

WHAT DAY 2 HAS FOR YOU?

10:00 AM - 12:00 PM

SESSIONS: NEXT GEN BATTERY TECH FOR EVS

BRIJ N. SINGH (JOHN DEERE)

VINOD KHADKIKAR (KHALIFA UNIVERSITY, UAE)

12:00 PM - 02:30 PM

**SESSIONS: OPPORTUNITIES FOR STARTUP AND
ENTREPRENEURSHIP IN EVS**

SANJEET K. DWIVEDI (EVERFUEL)

ABHIJIT KULKARNI (AALBORG UNIVERSITY)

NETWORKING LUNCH

02:30 PM - 06:45 PM

**SESSIONS: RENEWABLE INTEGRATED DATA DRIVEN
SMART EV INFRASTRUCTURE**

GOURAB MAJUMDAR (MITSUBISHI),

GIRISH NANJUNDAIAH (OPAL-RT),

ARUN K, CHOUDHARY (MNRE INDIA),

PROF. R. K. SINGH (IIT BHU)

PANEL DISCUSSION

VALEDICTORY CEREMONY

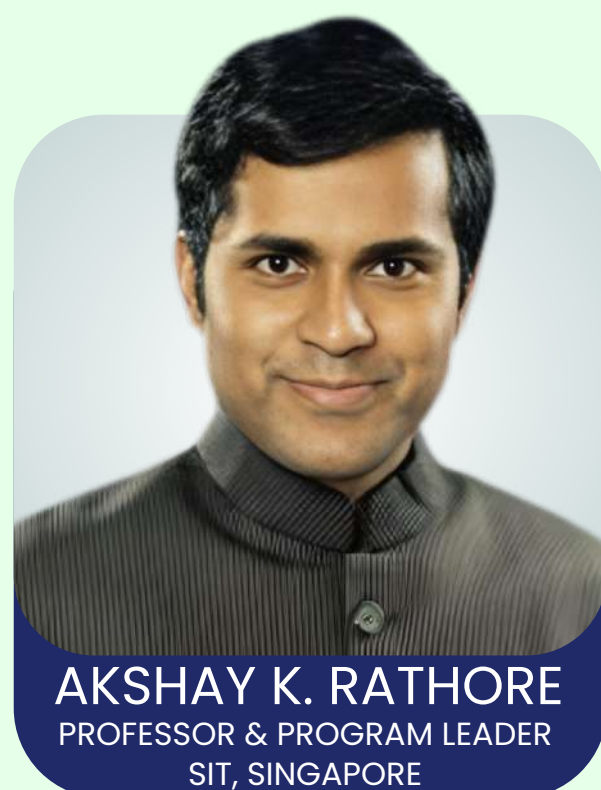


SPEAKERS



ABHIJIT KULKARNI
ASSISTANT PROFESSOR
AALBORG UNIVERSITY

Abhijit Kulkarni (Member, IEEE) received the Ph.D. degree in electrical engineering from the Department of Electrical Engineering, Indian Institute of Science, Bengaluru, India, in 2016. From July 2016 to July 2017, he was a Post-Doctoral Research Associate with the University of Illinois at Chicago, Chicago, IL, USA. He was a Scientist with Honeywell Technology Solutions Lab. Pvt. Ltd., Bengaluru. Currently, He is Assistant Professor in Electrical Engineering at Aalborg University Denmark.



AKSHAY K. RATHORE
PROFESSOR & PROGRAM LEADER
SIT, SINGAPORE

Akshay Rathore, an IEEE Fellow holding a PhD in power electronics from the University of Victoria, is an expert in power electronics and control for electrical motor drives. Formerly an Associate Professor at Concordia University, he is recognized for about 300 research papers, including 96 IEEE Transactions. His accolades include the 2013 IEEE IAS Andrew W. Smith Outstanding Young Member Achievement Award, 2014 Isao Takahashi Power Electronics Award, 2017 IEEE IES David Irwin Early Career Award, 2019 IES Publications Service Recognition Award, 2020 IEEE IAS Outstanding Area Chair Award, 2020 IEEE Bimal Bose Award for Industrial Electronics Applications in Energy Systems, and 2021 Nagamori Award.



ANDREW M. KNIGHT
PROFESSOR
UNIVERSITY OF CALGARY

Andrew M. Knight (Senior Member, IEEE) received the B.A. and Ph.D. degrees from the University of Cambridge, Cambridge, U.K., in 1994 and 1998, respectively. He is currently a Professor and the Head of the Department of Electrical and Software Engineering, University of Calgary, Calgary, AB, Canada. His research interests include energy conversion and clean and efficient energy utilization. He was the recipient of the IEEE PES Prize Paper Award and three Best Paper Awards from IEEE IAS. He was the IAS Publications Chair, Steering Committee Chair of the IEEE ECCE and IEEE IEMDC, and Chair of the IEEE Smart Grid Research and Development Committee. He is also the President of the IEEE IAS. He is a professional engineer registered in the Province of Alberta, Canada.



ARUN K. CHOUDHARY
SCIENTIST/ASSISTANT DIRECTOR
MNRE INDIA

Arun K Choudhary, an academic-turned-scientist, holds a B.Tech from BBDNITM, M.Tech from MMMUT, and is pursuing a Ph.D. at IIT Delhi. A GATE exam topper, he specializes in Smart Grids, Renewable Energy Forecasting, and Computational Intelligence in Power Systems. With numerous publications, industrial designs, technology transfers, copyrights, and patents, he is a Fellow of IETE, Senior IEEE Member, and active in professional societies. Currently, he serves as a Scientist at the Ministry of New & Renewable Energy, Government of India.

SPEAKERS

Brij N. Singh, an IEEE Fellow with a Ph.D. in electrical engineering from IIT Delhi, currently serves as Jhon Deere Technical fellow & Region 4 Manager of External Relationships. Specializing in wide bandgap technologies and power electronics for precision agriculture, Singh holds over 95 research papers, 35 US patents, and one trade secret. His achievements include teaching awards at Tulane, three innovation awards, a collaboration award at John Deere, and the 2020 IEEE Power Electronics Emerging Technology Award. Recognized as the 2023-2024 IEEE Power Electronics Society Distinguished Lecturer, Dr. Singh expertise extends across various domains in the field.



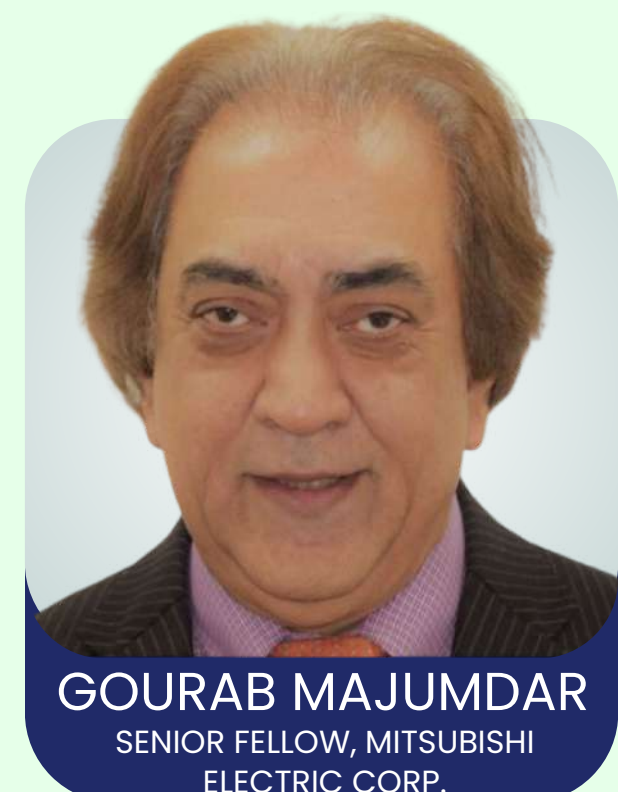
Frede Blaabjerg, a renowned electrical engineer, earned his PhD in 1992 from Aalborg University and is now a Full Professor. Focusing on power electronics applications in wind turbines and PV systems, his extensive research boasts over 600 papers and authorship/editorship of numerous books. Recognized for his contributions, Blaabjerg has received 32 IEEE Prize Paper Awards, the 2014 IEEE William E. Newell Power Electronics Award, and the prestigious 2020 IEEE Edison Medal. Notably, he has held leadership roles in the IEEE Power Electronics Society, including Editor-in-Chief of the IEEE Transactions on Power Electronics, underscoring his significant impact on the discipline.



Mr. Girish Nanjundaiah graduated in 1993 from the erstwhile Karnataka University with Degree in Electronics and Communication Engineering. Girish Nanjundaiah started his career with business development for MathWorks range of MATLAB/Simulink software and was instrumental in introducing it to many Academic Institutions, PSUs, DRDOs, etc. Today the scientific and engineering community in Hyderabad owes it to him for introducing it to them. Girish Nanjundaiah moved on to other products but remained in touch with the Simulation Industry. In 2004, he was the first Consultant Employee of Opal-RT Technologies in India and a decade later, has risen to the position of Managing Director.



Gourab Majumdar, an IEEE Fellow born in 1955 in India, holds a B.Tech from IIT Delhi (1977) and a PhD from Kyushu Institute of Technology, Japan (2005). With a career spanning decades at Mitsubishi Electric Corporation, he is a Senior Fellow, specializing in advanced power semiconductor development. Majumdar, a prolific author and patent holder. He is a recipient of the prestigious National Invention Award in Japan in 2005 for invention of the IPM (Intelligent Power Module) fundamental concept and has also received a number of other prestigious awards, including the "Monozukuri Nihon Taishou" (Japan Craftsmanship Grand-prix) award from the honorary Minister of Economy, Trade and Industry in 2013 for contribution in development and commercialization of various generations of IPM devices.



SPEAKERS



HITESH BHARDWAJ
BUSINESS HEAD
MITSUBISHI ELECTRIC CORP.

Hitesh Bhardwaj has been working as a Group Business Power Electronics, Radio Frequency, Visual & Imaging Head at Mitsubishi Electric Asia for 14 years. Mitsubishi Electric Asia is part of the Electronics industry, and located in Singapore. Mr. Hitesh Bhardwaj, is currently General Manager, Semiconductor and Devices division, Mitsubishi Electric India Pvt. Ltd.



KALPATHI S. SURESH
CEO, VERANDA LEARNING

Mr. Kalpathi S. Suresh, an esteemed entrepreneur and the Executive Director at Veranda Learning Solutions, a prominent education solutions firm, demonstrates exceptional leadership by encouraging teams to excel beyond standard responsibilities. Co-founding SSI, a global software education company in 1991, he led its transformation into a publicly listed entity with a joint venture with NASDAQ and the acquisition of Albion Orion Company LLC. With vast software experience, including a tenure at HCL and Sybase, Inc., Mr. Suresh shares his entrepreneurial insights at prestigious institutions and holds memberships in esteemed organizations like the Young Presidents' Organization. Academically accomplished with degrees from the Indian Institute of Technology Madras and Clemson University, he is not only a business luminary but also an accomplished marathoner, showcasing his dedication and perseverance beyond professional boundaries.



OM KRISHAN SINGH
SCIENTIST D, R&D
MEITY

Om Krishan Singh, a scientist D in the Ministry of Electronics and Information Technology from Jan 2014. He has experience in R&D project management in the area of Microelectronics, Electronics System Development Power Electronics, ITS, e-mobility, Process Industry. He holds a B. Tech from Madan Mohan Malviya University of Technology and master's from Indian Institute of Technology Roorkee.



SANJEET K. DWIVEDI
TECHNOLOGY PROJECT MANAGER
@EVERFUEL, DENMARK

Sanjeet Dwivedi is working as Senior R&D Motor and Application Control Engineer in Danfoss Power Electronics A/S Denmark. He is Adjunct Professor in Power Electronics at Curtin University Perth. He obtained 1st Masters M.E. in power electronics and drive (with Gold Medal) from IIT-R & 2nd Masters M.Sc. Engineering in Innovation and Business from DK, Ph.D degree from IIT-D. He got Man on the Moon Award of Danfoss and IETE-Bimal Bose award-2017. He is TE of IEEE T Mech and AE of IEEE TIE.

SPEAKERS

Santanu K. Mishra received a B.Tech. degree in Electrical Engineering from the College of Engineering and Technology, Bhubaneswar, India, in 1998, an M.Tech. degree in Energy Systems Engineering from Indian Institute of Technology, Chennai, India, in 2000, and the Ph.D. degree from the Department of Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA, in 2006. He worked as a senior application engineer with the International Rectifier Corporation in Rhode Island, USA, from 2004 to 2008. Recently, he was the MoSDE Chair Professor at the Indian Institute of Technology, Kanpur, India. During Fall of 2017, he was a Visiting Professor with Center for Power Electronics Systems (CPES), Virginia Tech., Blacksburg, VA, USA. His research interests include power converter design, implementation, control, and applications in rural scenario. Currently, he is professor, Center for Automotive Research and Tribology (CART) at the Indian Institute of Technology Delhi.



SANTANU K. MISHRA
PROFESSOR, CART, IIT DELHI

Sunita Verma has been working as a Scientist G and Group Coordinator in R&D at Ministry of Electronics and Information Technology from Jun 2022. She has also worked as a lead Project manager from Nov 1990 to July 2022. She received a B. Tech degree in Computer science Engineering from the Institute of Engineering and Technology, Lucknow.



SUNITA VERMA
GROUP COORDINATOR (R&D)
MEITY

Tapan Sahoo is currently a Executive Director at Maruti Suzuki India Limited. He is a graduate in Electrical Engineering and holds an MBA degree with a focus on Technology and Strategic Management from the Department of Management Studies, IIT Delhi. He completed his Ph.D. in Strategic Technology Management in the Auto Component Industry in India at IIT Delhi. Currently, he heads the technology development function in the Electrical and HVAC technology domain at Maruti Suzuki India's Engineering, Research, Design, and Development Center. He is involved in various task committees and panels of SIAM, SAE Northern India section, NATRIP, BIS, and OICA-GEE.



TAPAN SAHOO
EXECUTIVE DIRECTOR (R&D)
MARUTI SUZUKI

Vinod Khadkikar, an IEEE Fellow, earned his M.Tech. from IIT Delhi in 2002 and a Ph.D. in electrical engineering from École de Technologie Supérieure, Canada, in 2008. Currently a Professor at Khalifa University, Abu Dhabi, his research focuses on power electronics applications in distribution systems, renewable energy, grid interconnection, power quality, active power filters, and electric vehicles. Serving as an Associate Editor for prestigious IEEE journals, he holds the title of Distinguished Lecturer with the IEEE Industry Applications Society.



VINOD KADKIKAR
PROFESSOR, KHALIFA
UNIVERSITY, UAE

PARTNERS

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CONVERGENT

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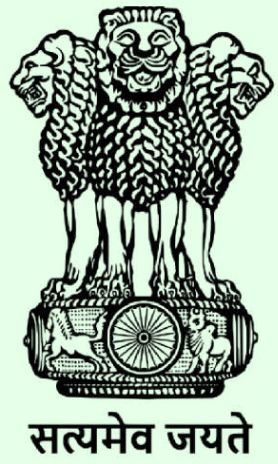
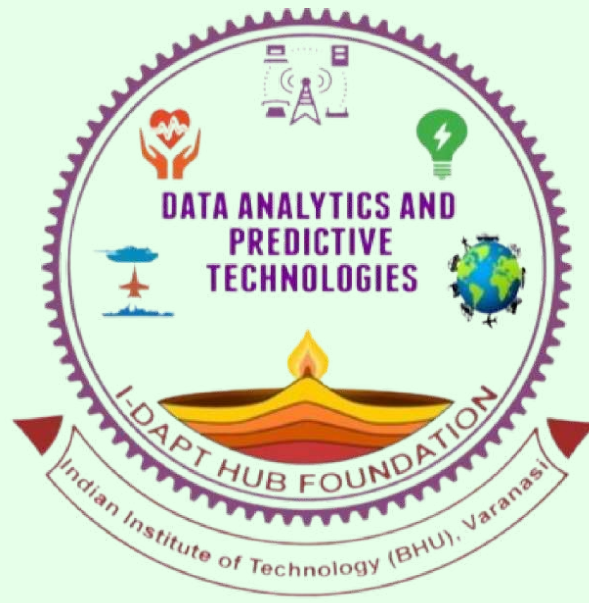
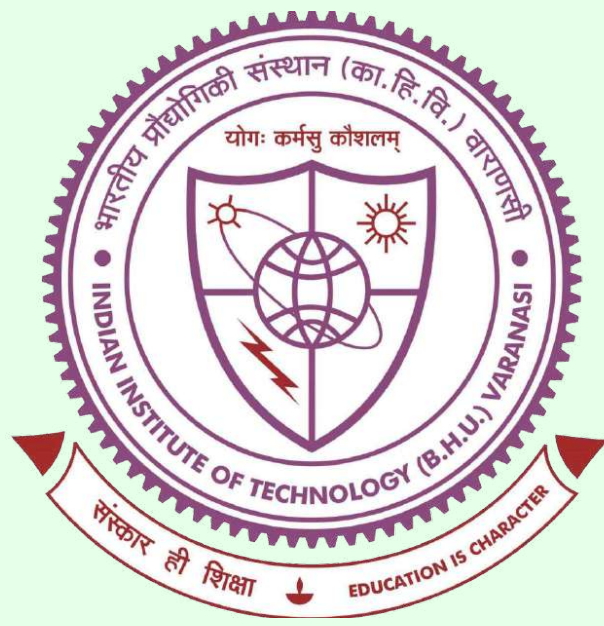



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