MATRIX FORUM

9th Edition
matrix 2024
GLOBAL SUMMIT
Connected. Ambient. Intelligent.
June 6th-7th, 2024

Theme : Deep Tech - The Future Beckons
Venue : BIC, Domlur, Bengaluru

TiE BANGALORE ACCELERATING GROWTH TOGETHER

June 6th		
Main Hall	Hall 1& 2 – 1st Floor	Library – 2nd Floor
3:30 PM - 4:00 PM	3:30 PM - 3:50 PM	3:00 PM – 5:30 PM
Registration + Visit to booths & Startup showcase	**Session: Survey of Robotics Landscape** **Speaker**: Arvind Vasu, MD, Robot System Products (India) | Experience Industry 4.0, Robotics, Automation, Consulting & Venture Capital. [Video conferencing] **Description**: A landscape of the Robotics chain. From components and sub-assemblies like sensors, grippers, pumps, to full working robots and some hotspots where Made from India may have an opportunity for global usage	**Robotics Workshop:** Comprehensive dive into NVIDIA robotics technologies **Instructor:** Ninad Madhab, Solutions Architect, NVIDIA **Workshop Description**: This workshop session offers a comprehensive dive into the world of NVIDIA's robotics technologies, with a focus on the ISAAC platform, which includes both ISAAC SIM and ISAAC ROS. Participants will engage in discussions about the latest advancements in NVIDIA Robotics and gain insights into the ISAAC Platform's capabilities. The session is designed to empower attendees with the knowledge to unleash high performance in robotics applications by utilizing Isaac ROS and Isaac SIM. Additionally, it will cover the generation of synthetic data within ISAAC SIM, which is crucial for training machine learning models in simulated environments. Attendees will also learn how to import custom robots into the ISAAC SIM environment and explore the intricacies of visual SLAM (vSLAM) with NVIDIA's Jetson hardware through ISAAC ROS. The workshop will further delve into the integration of deep learning models, like YOLO, with ISAAC SIM and ROS, providing a holistic understanding of how these technologies can be combined to create sophisticated robotic systems. By the end of the session, participants can expect to have a solid grasp of NVIDIA's robotics ecosystem, enabling them to apply these cutting-edge technologies to their own robotics projects or research endeavours. Prerequisites: Knowledge on Basic ROS; Carrying Laptop with GPU/Jetson will be advantageous.

4:00 PM - 5:00PM	3:50 PM – 4:40 PM	
Inauguration	**Session: Robotics in use** **Panellists:** - Dr. Pradeepkumar Sundarraj, Kelvin6k Robotic 3D Construction - Nikhil Ramaswamy, CynLR visually intelligent robots that can manipulate any object [VC] - Aditya Varma Sagi, Chirathe Robotics - Kaushik Sampath, Twara Robotics **Moderator:** Dr. Aloknath De, CTO, XTranssolutions | Chair, AgriEnIcs, MeitY-GoI | Former CTO & CVP, Samsung; MD, ST-Ericsson | Angel Investor | Adjunct Prof. IISc | BoG DA-IICT | **Description**: Panellists are using or developing robots for uses in different industries and tasks. The session will explore usage, engineering , economics and learnings and the way forward for the startups in the robotics ecosystem	

5:00 PM - 5:20 PM	4:40 PM - 5:25 PM	
Keynote address by **Dr.Ajai Chowdhry**, Founder and HCL, Chairman, EPIC Foundation **AI for the world in the context of India as a Product Nation**	**Session: Private 5G Networks** **Speakers:** Pamela Kumar CSO, FSID at IISc. Ex-DDG of TSDSI Suraj Prakash CEO, TexMin Foundation, IIT Dhanbad for Mining Abhijit Chaudhary NIral Networks **Description**: Industrie 4.0 and factories need reliable and low latency robust economical networks and cellular operators may not see enough device density in off-city locations. 5G allows private networks which can be architected to different use cases on data bandwidth, latency and reliability. This session will explore use cases and open source enablers	
6:10 PM - 6:40 PM		
Theme Address by **Arvind Tiwary**, Chair Emeritus Matrix Forum **Deep Tech - The Future Beckons**		
6:45 PM - 7:00 PM		
Announcements: You heard it first at Matrix 2024		
7:00 PM - 8:30 PM		
Matrix Start Up Awards Celebrating 10 years of Matrix Summit (erstwhile IoTNext) - Past winners Matrix Start Up Awards 2024. Felicitation of winners.		
8:30 PM		
Dinner by Invite		

June 7th			
Registration and KeyNotes	**AgriTrack**	**Gen AI Track**	**Industrial Track**
9:00 AM - 9:30 AM	10:30 AM - 11:45 AM	10:30 AM - 11:00 AM	10:30 AM - 11:30 AM
Registeration	**Precision Agriculture Technologies** Panellists: Benjamin Swan, Founder & CEO, BECO Verdant Varun Prabhakar, Agtech Evangelist, AgWise Shruti, Founder & CEO, BacAlt Shashikumar, Founder & CEO, Akshayakalpa Subhankar Pandey, Co-founder & CTO, InQube Hetendra Singh, Founder, Segritech [VC] Moderator: Ashok Meda, CoFounder Director at Krishi Kalpa Foundation	**AI in EdTech** **Speaker:** Tanuja Ganu, Principal Research SDE Manager, Microsoft Research India **Description:** Quality education at reasonable cost is paramount in skilling Bharat at scale. The ability to impart relevant current and adaptive coaching and education to the primary and secondary schooling at reasonable cost has been a struggling journey for many efforts and startups. Shiksha Copilot aims to develop specialized generative AI copilots accessible to educators, farmers, and small business owners.	**Sustainability: Decarbonisation in heavy industries** Panellists: Suruchi Rao, CEO & Co-Founder, Ossus Biorenewables Deepak Krishnan, Deputy Director, World Resources Institute Prof Arnab Dutta, Associate Professor, IIT Bombay [VC] Moderator: Rohan Choukkar, VP Investments, Bharat Innovation Fund
9:30 AM - 9:50 AM	11:45 AM - 12:30 PM	11:00 AM - 12:10 PM	11:30 AM - 12:30 PM
Keynote by **Ravi Chhabria**, NetApp India, MD **Building Intelligent IT infrastructure for AI**	**Supporting the Agri Value Chain** Panellists: Deepak Verma, Domain Lead - Agriculture - ONDC Ramesh T, CGM - NABARD Moderator : Kishor Jagirdar, President, Vision Karnataka Foundation	**AI in Action** Panellists: Hemanth Bharatha Chakravarthy - Legal - Cofounder Jhana.ai Trisha Chatterjee- Drug Discovery - Cofounder ImmunitoAI Ankit Ratan - BFSI - Cofounder Signzy Dilip Ittyera CEO Cogniswitch [VC] Abhay Nawathey Cloudura - sales Co pilot Moderator : Arvind Tiwary, Chair Emeritus Matrix Forum **Description:** GenAI is the current thing. Closed models like GPT4, Claude, Gemini, Cohere have seen overflowing open source models. Hugging Face the default app-market for models has over 1,000 +. We explore a diverse set of usage, the engineering effort, the	**Data-driven manufacturing for sustainability**

		implicit economics and learning to evolve.	
9:50 AM - 10:10 AM		12:10 PM - 12:30 PM	
Keynote by **Dr. Nikhil Varma**, Tech Lead, Algorand Foundation India **The Future of Blockchain: Navigating the Cycles of Centralization and Decentralization**		**The GenAI Cambrian Period** **Speaker:** Suparna Bhattacharya HPE Fellow at AI Research Lab, Hewlett Packard Labs **Description:** With over 20,000+ Models and applications on Hugging face we have a plethora of choices. Tools, architecture, methods are also rapidly changing with new approaches, variations and refinements arriving like a tsunami. These advances are motivating the evolution from models to model based systems or platforms , such as LLM OSes and other compound AI systems, guided by intelligent model evaluation techniques.	
12:30 – 1:30 PM - Lunch			
Workshops		**Gen AI Track**	**DFM Track**
1:30 PM - 2:15 PM - Gallery		1:45 PM - 2:30 PM	1:30 PM - 3:00 PM
Panel Discussion + QnA: **Precision in Supply Chain**: Manufacturing and Mass Traceability with Blockchain **Description**: This panel session delves into applications of blockchain technology that are being built for specialized traceability in supply chains. The founder of Anveshak, a Bangalore-based startup, will discuss their unique mass-based traceability system, which ensures the integrity and verification of goods as they move through various stages of the supply chain. Meanwhile, the founder of Delhi-based Arvo will share insights into their approach to manufacturing traceability, focusing on maintaining and verifying the quality and origin of manufacturing components. Key discussion points will include: Technological Underpinnings: An exploration of blockchain technologies that enable precise tracking and verification capabilities.		**Evaluating GenAI Models** Panellists: - Sunayana Sitaram, Director of Research Fellow program at Microsoft Research India - Vijaya Kumar Ivaturi , Cofounder and CTO of Crayon Data, ex CTO Wipro Moderator: - Roopa Narayan, Data Science, MetLife **Description**: Given plethora of models and new versions or editions almost every quarter how do you measure capacity or reliability or accuracy of these models? Current benchmarks come from an academic setting and	**Fireside Chat: Master Class for Start Ups in Electronics and IOT** Panellists: Vivek Khanna , MD , Indic EMS Electronics Ravi Pagar, VP Sales and Marketing, Millennium Semiconductor Abdullah Khan, President, iWave Systems, Bangalore Ananth Krishna, MD , iAMPS & Hz Technology Solutions Moderator: Sanjeev Keskar, CEO, Arvind Consultancy and Executive Director, EPIC **Description:** Key aspects of Design to Manufacture

Impact on Supply Chain Operations: How these technologies transform traditional supply chain operations, reduce fraud, and increase efficiency. Case Studies: Specific examples from both Anveshak and Arvo, showcasing the real-world benefits and challenges of implementing these systems. Future Directions: Insights into future innovations in blockchain for further enhancing supply chain transparency and security. This panel aims to provide a deep dive into how blockchain technology can be tailored to meet specific needs within the supply chain sector.	may not even be measuring the right thing. Models also may have seen copies of these questions and may score very well but fail on real world or out of training data. Multilingual evaluation with mix code (Hindi-English) is another hurdle. Microsoft Research is running a Pariksha project of interest	• Design • Compliance • Supply Chain • Manufacturing
2:15 PM - 5:45 PM - Gallery	2:30 PM - 2:50 PM	
IDEATION WORKSHOP: Reimagining Business Models with Blockchain: A Sector-Based Ideation Workshop **Instructor**: Dr. Nikhil Varma with Algorand Community Members **Description:** This workshop is designed as an intensive ideation sprint where participants will learn to redefine and transform business models using blockchain technology. The workshop will begin with a presentation that introduces essential tools and concepts needed to understand and leverage blockchain in various business sectors. Key components of the workshop include: Introduction to Business Transformation: An initial presentation to equip participants with knowledge about how blockchain can revolutionize business frameworks and revenue streams. Sector-Based Breakout Sessions: Participants will be divided into groups based on sectors such as healthcare, finance, education, and manufacturing. Each group will tackle a specific business challenge. Ideation and Model Development: Guided by facilitators, groups will develop innovative business models that incorporate blockchain to solve their sector-specific problems, focusing on how businesses can reconfigure operations and manage new revenue streams. Presentations and Collaborative Feedback: Groups will present their new business models to a panel of blockchain experts, encouraging a collaborative and iterative approach to ideation. **Pre-reading Material:** Participants will receive articles and case studies on blockchain applications in various industries to prepare them for the workshop. **Ideation Tools:** A toolkit will be provided that includes frameworks and templates to assist in the business model reconfiguration process.	**Fireside Chat** **Speaker**: Sambit Sahu OlaKrutim head Silicon **Description**: Compute capacity is critical for GenAi both now and in future as models are scaling up and need 100X more capacity each generation. These place demands on power and cooling and render cost/inference and latency/inference in zones that may not be viable to serve billions of queris per day . OlaKrutim has an AI Xcceleration plan.	

This session is intended to foster innovative thinking and practical application, ensuring participants leave with actionable insights on integrating blockchain into their business strategies.		
3:00 PM - 5:30 PM – Library 2nd Floor	3:00 PM - 4:15 PM	
Develop a lite app using a LLM driven recommendation with hyperlocal data for food ordering **Instructor: kAIron(TBA)** **Description:** Session for developers and entrepreneurs to get a hands on interaction to the full range in developing a GenAI application. The workshop uses web based development and API calls to a host Model.	**Desi LLM** 'Panellists: Nikhil Malhotra Project Indus CIO Tech Mahindra Vishnu Vardhan , Hanooman LLM, CEO VIzzhy Ankush Sabharwal CoRover,ai (BharatGPT) Moderator: Leslie D'Monte Tech buff at Mint, Author of AI Rising: India's AI Growth Story, co-host of AI Rising podcast Description: English Models have large data sources and well proven development path. They suffer in conversations in desi dialects and also are weak in use cases for services outside English. Chinese Models have managed to reach similar levels and there are many work under way in low resource languages like Finland, Japanese ,Arabic as well as 22 major Indian languages. We explore the landscape and the path ahead	
	4:15 PM - 5:15 PM	
	Introduction to Hanooman LLM for Developer Enterprise users **Speaker:** Harsha Vardhani Co founder SML & Hanooman **Description:** Introduction to Hanooman LLM and using as enterprise and developing apps. 2hrs hours session on the new model expected May 2024 exploring its features and how to use it for enterprise	

	users and develop custom apps using the base model	