

CURRENT STATUS OF AI AND POLICIES IN PAKISTAN



Prof. Dr. Yasar Ayaz

(Pride of Performance)

CPD/Chairman

National Center of Artificial Intelligence (NCAI)

NUST, Islamabad

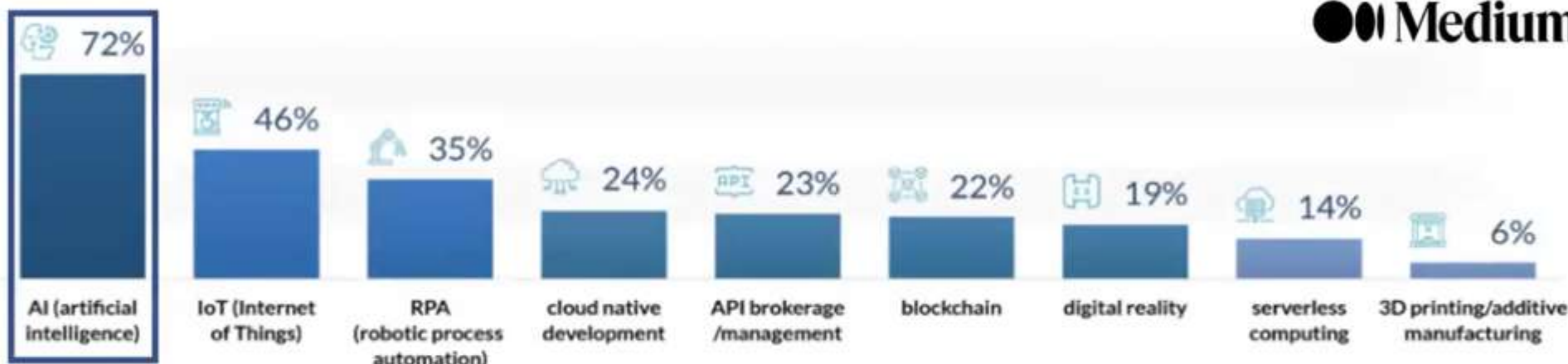


Overview & Evolution of Emerging Technologies

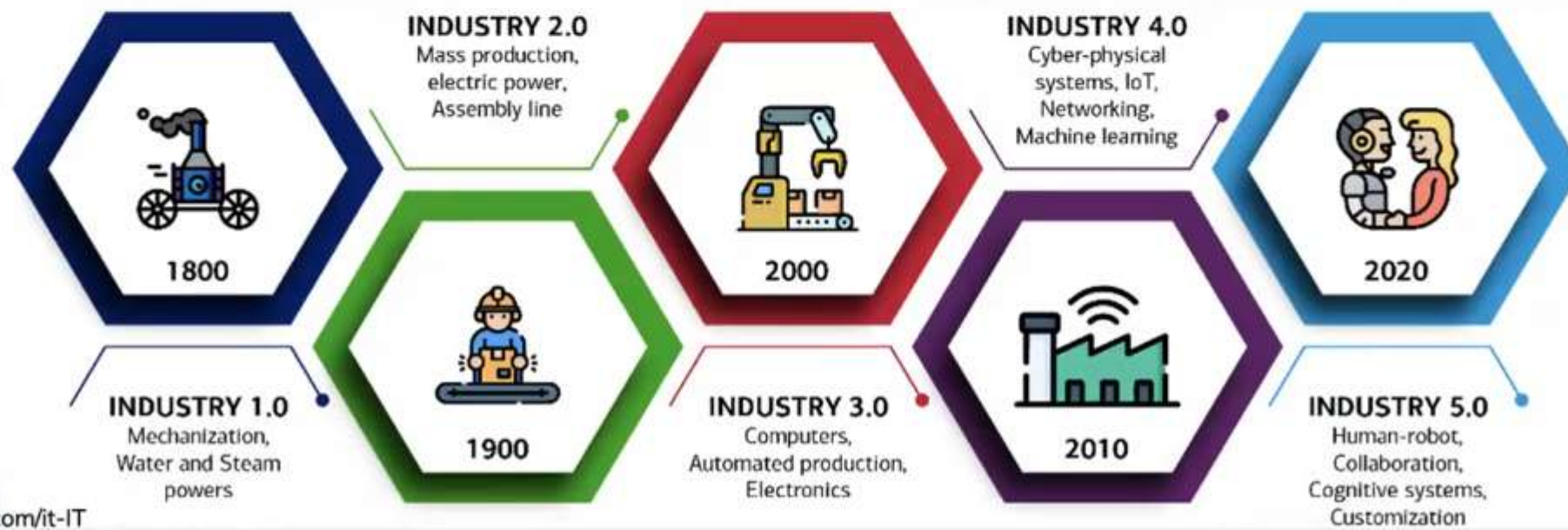
Which technologies are on top of CIOs' wish list?

Source: Medium

Medium



The fifth industrial revolution involves the combination of humans and machines at work



“
Data
is the
new
oil.”

~ Clive Humby

“
AI is the new
electricity.”



Andrew Ng, Baidu

“Just as electricity transformed almost everything 100 years ago, today I actually have a hard time thinking of an industry that I don’t think AI will transform in the next several years.”

— Andrew Ng



AI in Numbers



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The Global AI market size is expected to grow **26.6%** every year from 2025 to 2031

Source

statista

AI Will Contribute Over **\$19.9 Trillion** to the Global Economy by 2030

Source

IDC

AI market volume is expected to reach **\$1.01 Trillion** by 2031

Source

Forbes statista



Forbes

Around **4 in 5** companies deem AI to be a top priority in their business strategy

Source

Precedence
RESEARCH

By **2034**, the global AI in Aerospace and Defense Market is projected to exceed **\$65 Billion**

Revenue from AI software market worldwide is expected to reach **\$223.35 billion** by **2028**

Source

RESEARCHANDMARKETS
THE WORLD'S LARGEST MARKET RESEARCH STORE

Artificial Intelligence is expected to create **133 Million** new jobs by 2030

Source

McKinsey
& Company

As AI evolves, **400 million workers** could be displaced because of AI between 2016 and 2030, AI-related advancements may affect around 15% of the global workforce.

Source

McKinsey
& Company



Global AI Trends



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90,904

AI
Companies
Globally

25,033

AI
Companies
Funded

9,309

with
Series A
Funding

400

AI Unicorns
Created

\$757 B

Raised
collectively
(Includes VC &
PE funding)

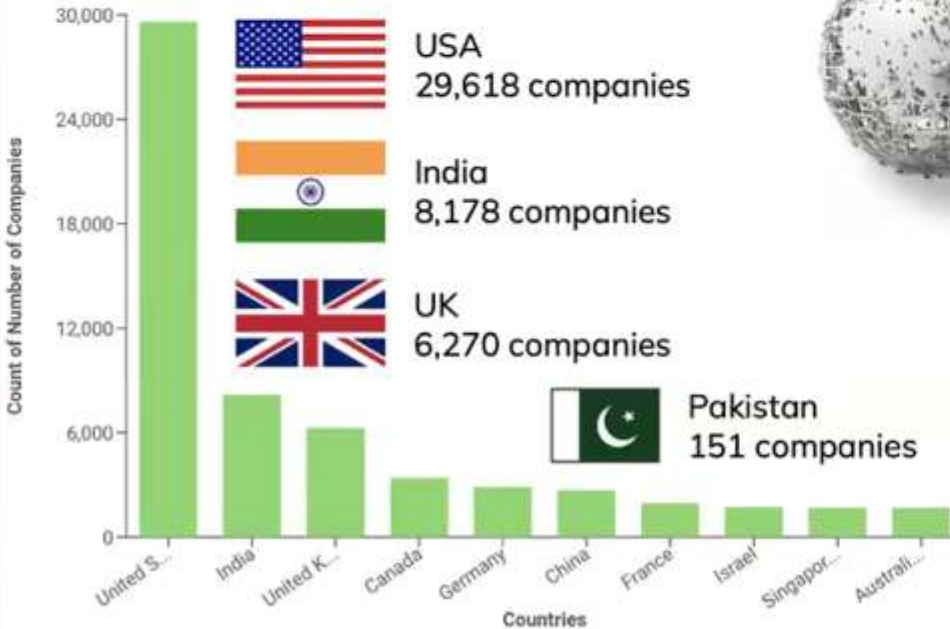
305

AI firms in
2025

7,051

AI Startups
Inc. Yearly
(avg.)

■ Total Number of Companies



Source: [Tracxn](#) Source: [Tech Behemoths](#)

Top Tech Search Trends in Pakistan

Tech

Year in Search 2023

- 1 ChatGPT
- 2 Tamasha Live
- 3 Infinix Note
- 4 iPhone 15
- 5 ARY ZAP



Source: [Google Trends](#)

Year in Search 2024

- 1 Chatgpt login
- 2 Bing image creator
- 3 Infinix note 30
- 4 Vivo y100
- 5 Gemini

Top Trending in Pakistan
Tech

Google Trends
trends.withgoogle.com



NCAI Background



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2016



HEC Opens
Call for
Proposals

2017



**6 x Public Sector
Universities**
selected on a
consortium model
for the placement
of **9 x Labs**

2018



NCAI established under the leadership of
NUST

NCAI HQ is located at NUST Islamabad



2019



Project Funding
released by HEC

Original PC-1
PKR 1,098.387 M

2024



NCAI PC-1
revised with
additional funding

Revised PC-1
PKR 1,854.446 M

PRESENT



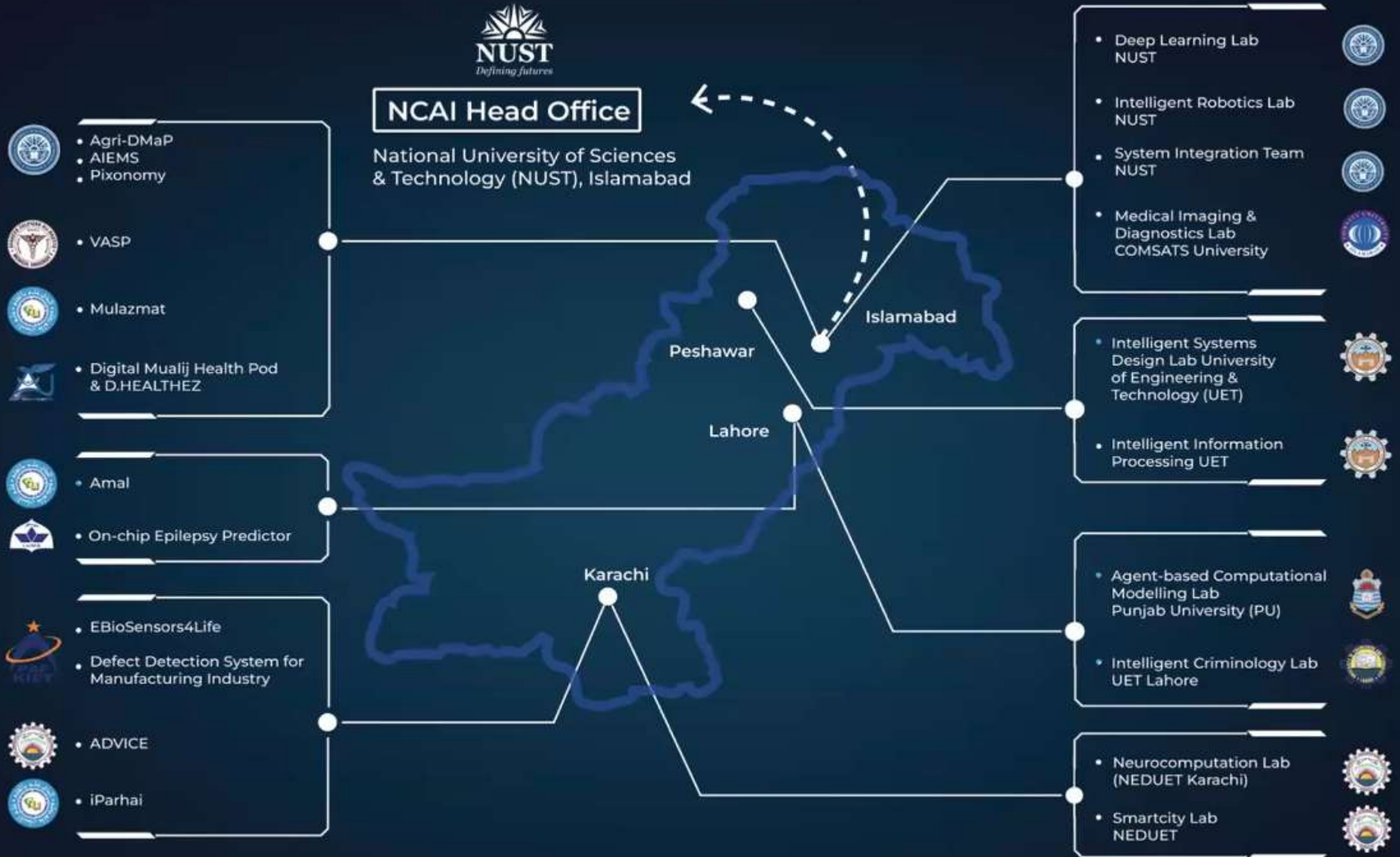
Working as
**The National Hub
of AI in Pakistan**



CPD and PIs of NCAI have been selected on
competitive ground by HEC and MoPDSI across Pakistan



12 PROJECT LABS



10 CORE LABS



NCAI National Structure



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National and Global Impact

42
National & International
Industry Collaborations



100+
Webinars & Industry
Connect Events




DESIGNED
National AI
Curriculum MS & PhD


PKR 1,116M+
Industrial & Research
Funding Acquired

50
National & International
Academic Collaborations



225+
Indigenous Proposals
& Product Concepts




50+
Trainings & Workshops
(AI & AT)


20+
National & International
Policy Contributions



30
Awards &
Accolades



300+
Research
Publications



38+
AI Startups



6+
Patents Awarded



National AI Task Force



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- Est. by **Minister MoPDSI** in **June 2023**
- NCAI, under the guidance of MoPDSI, leads the strategic National AI Task Force for **early adoption of AI in Pakistan**
- Multiple meetings held with the stakeholders with **NCAI as the convener**
- Preparation of National AI Roadmap and 10-year implementation plan

Task Force Sub Committees

Foundations/Infrastructure

Governance

Healthcare

Agriculture

Manufacturing & Mining Industry

Software Industry

Education

Fintech

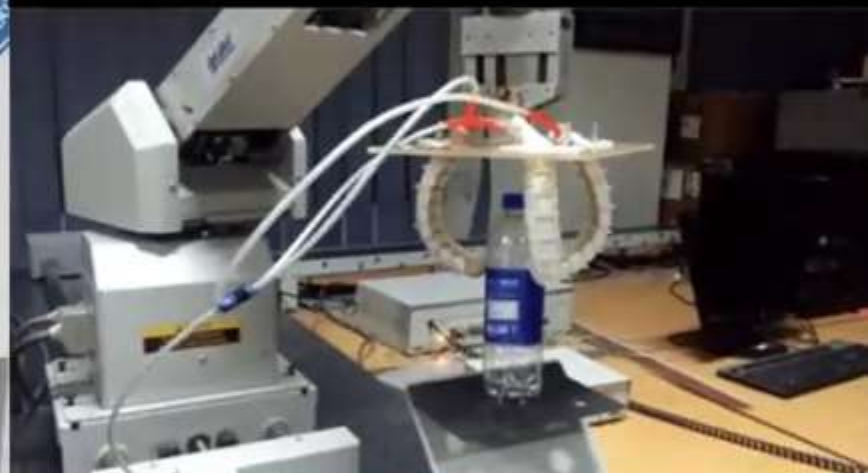
Law And Judiciary

Defense/Strategic Organizations

Energy & Climate Change

International Collaborations







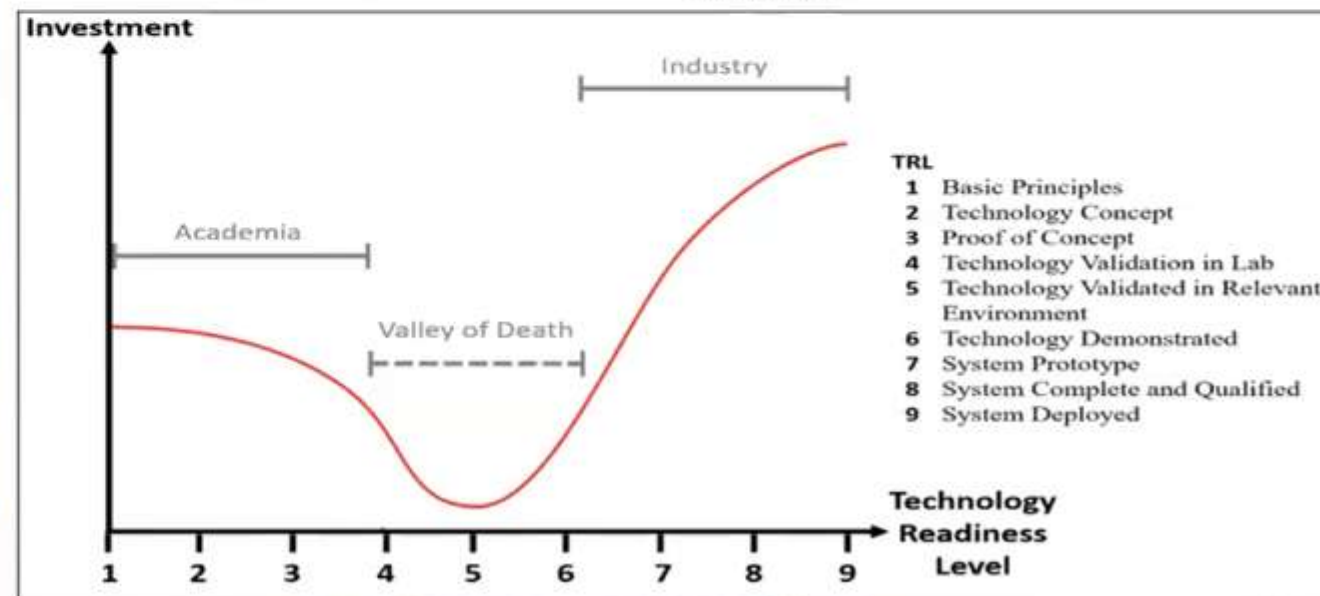
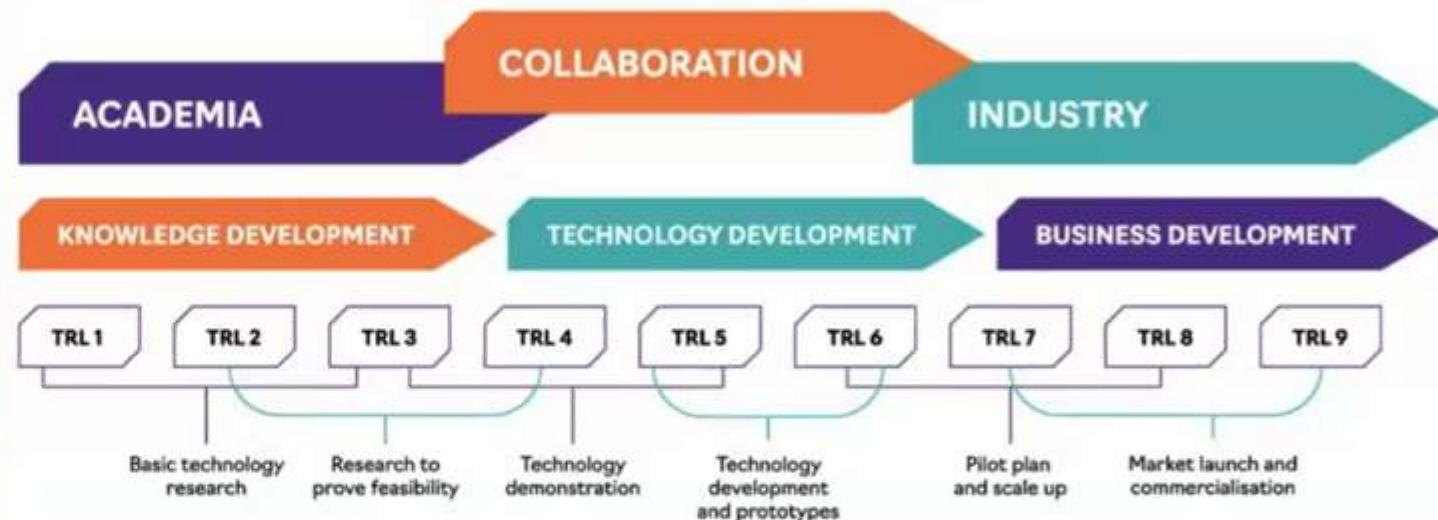
Technology Readiness Levels



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RESEARCH DEVELOPMENT DEPLOYMENT

9	ACTUAL SYSTEM PROVEN IN OPERATIONAL ENVIRONMENT
8	SYSTEM COMPLETE AND QUALIFIED
7	SYSTEM PROTOTYPE DEMONSTRATION IN OPERATIONAL ENVIRONMENT
6	TECHNOLOGY DEMONSTRATED IN RELEVANT ENVIRONMENT
5	TECHNOLOGY VALIDATED IN RELEVANT ENVIRONMENT
4	TECHNOLOGY VALIDATED IN LAB
3	EXPERIMENTAL PROOF OF CONCEPT
2	TECHNOLOGY CONCEPT FORMULATED
1	BASIC PRINCIPLES OBSERVED

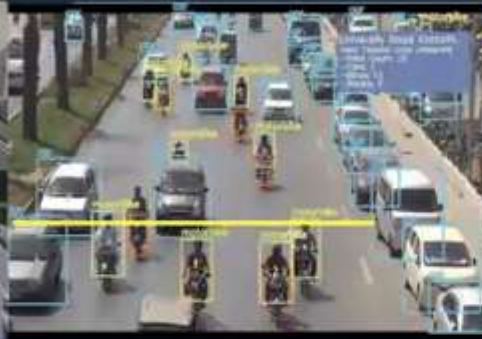


TRLs originally developed by NASA, have been taken up by other organisations, including the United States Department of Energy (DOE), the US Department of Defense (DOD), the European Space Agency (ESA), and industries including oil and gas.

Vehicle Counting & Classification



Vehicle Counting & Number Plate Detection



Smart Parking System



Number Plate Detection & Recognition



Vehicle Recognition System



Lost And Found Identification System



Deployed at
Lahore (PSCA)
&
Mardan (KPK)
Safe City Projects

- Campus Security Solution devised with the bid for UET Narowal Campus Security submitted as part of Narowal Safe City Project
- Proposal shared for NUST Campus Security as well

Mardan Safe City Project



3rd August 2022

Subject: Letter of Appreciation

This letter is to acknowledge that Intelligent Criminology Research Lab, under National Center of Artificial Intelligence at Al-Khwarizmi Institute of Computer Science, UET Lahore has been developing "Lost and found" in collaboration with developers of Punjab Safe Cities Authority (PSCA) Lahore at PSCA HQ, Qurban Lines Lahore.

The major points of the developed product being tested, include:

- Registration of missing and found persons informed by Citizens/Officials
- Match missing/found persons against the stored database
- Priority list of matched person is shown with % of similarity
- A face matching engine is developed using in-house algorithms
- Web-APIs for integration with existing systems

We appreciate ICRL team's successful contribution for development of the systems in collaboration with PSCA software development team and thank them for their continuous efforts and support. We are looking forward for further collaborations.

Tariq Malik
(Tariq Malik)
Chief Technology Officer (IC)

Action Detection System



Suspicious Activity Recognition



Crowd Behavior Detection



Firearm detection System



Infantry Tactical Simulator



Medium.AI (Full Demo)



Ticker Transcription/ Recognition



Face Recognition



Mediam.ai
Transforming Media Intelligence



Development of In-house AI modules:

- Face Recognition
- Urdu & English Speech Recognition
- Urdu & English Speech transcription
- Text/ticker recognition Urdu and English
- Brand/advertisement Recognition
- Content and Sentiment Analysis



AI-Driven Decision Support System for Pakistan Judiciary

Collaboration with Law & Justice Commission (LJCP)
on
AI for Judiciary



PROJECT DEMO DELIVERED TO SUPREME COURT
(60M PKR PC-1 Submitted)

MoU with SCP is approved and will be signed soon for Project Implementation

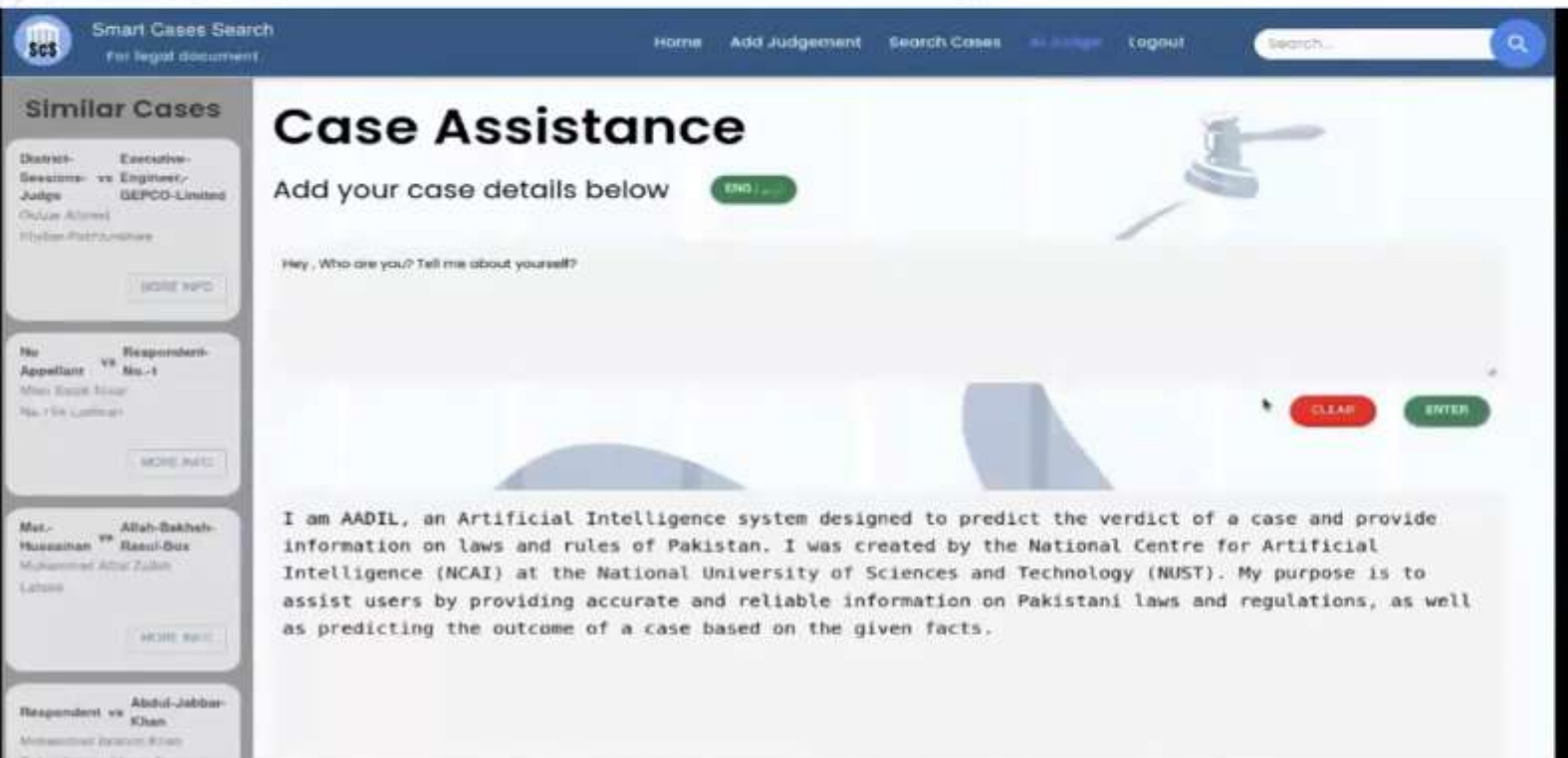


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Features:

- Digitization of paper records
- Automated Information Extraction and Retrieval from judgments
- An efficient Semantic Search system based on legal ontologies to search for relevant cases
- Text Summarization for individual cases
- Data Anonymization of publicly available data to comply with GDPR and other privacy regulations.
- Model Trained on 11,000+ Civil Cases on Property Disputes.



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NAB AI PORTAL

Accountability Powered by AI



DG NAB Rawalpindi & Islamabad Office is working jointly with NCAI to develop a NAB AI Portal aiming to solve the following issues:

- 1 Increasing volume and complexity of financial crimes
- 2 Limitations of manual tracking & paper-based review
- 3 Urgent requirement for automation, anomaly detection, & visualization tools



Geo News

HOME LATEST PAKISTAN WORLD SPORTS SHOWBIZ FACT CHECK BIG PICTURE VIDEOS SHOWS **LIVE TV**

NAB Islamabad, Rawalpindi embrace advanced AI technology

AI systems being utilised to analyse complex financial data and activities in major corruption cases, say sources

By Web Desk | June 22, 2025



AI in Tourism, Culture & Heritage



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NRPU Grant - National Research Program for Universities (NRPU) HEC grant for heritage preservation through AR/VR

LLaMA
by **Meta**

Deloitte.



Meta

PRESERVING CULTURE
HERITAGE WITH
AR & VR

Jandial Temple, Taxila,
Pakistan



Ongoing Project on
Dharmarajika, Taxilla





AI in Healthcare Digital Human Project



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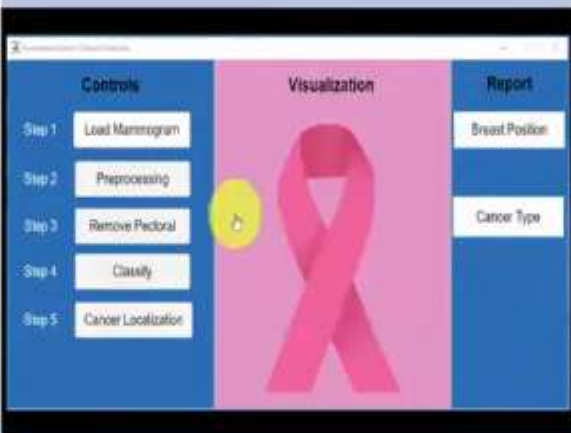
BrainViz Brain MRI Segmentation Application



Pulmonary Diagnosis System via AI



Tashkhees Breast Cancer Detection



On-chip Epilepsy Predictor using AI for Chronic Neurological Disorders



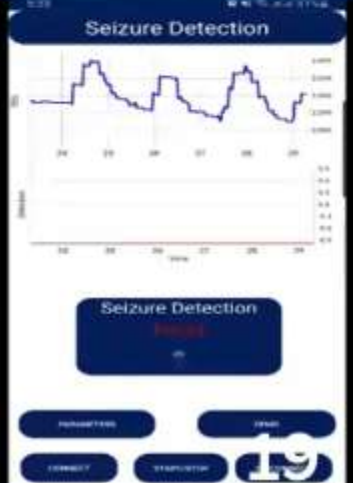
AI Integrated DICOM Viewer



Thalassemia Screening Device



Vascular Arterial Surgical Planning System





AI in Healthcare

Remote Monitoring & Diagnosis



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Digital Mualij HealthPod



Partnered with Juntendo University in Japan to establish a joint lab focused on AI innovation in healthcare.



A.I. Chatbots Defeated Doctors at Diagnosing Illness

A small study found ChatGPT outdid human physicians when assessing medical case histories, even when those doctors were using a chatbot.

- Designed **Curriculum in AI** for Medical Schools
- Developed indigenous **Medical Diagnostics solutions** for Hospitals and Diagnostics Centers
- Development of **Pakistan's National Health Data Repository (NHDR)**, integrating AI-driven insights for real-time healthcare innovation, diagnostics, and policy support
- Launching professional certification for **AI in Medical Diagnostics**



The study asked 50 doctors, 26 of whom were attending physicians and 24 of whom were residents, to try to make six different diagnoses for medical conditions with the same case histories. Some doctors were given OpenAI's ChatGPT to help them make their decisions; others went without AI. Doctors who did the project without AI got an average score of 74%, doctors who used AI got an average score of 76%, and ChatGPT itself got an average score of 90%.

ENHANCING HUMAN PERFORMANCE IN COMPLEX SOCIO-TECHNICAL SYSTEMS



Horizon Europe

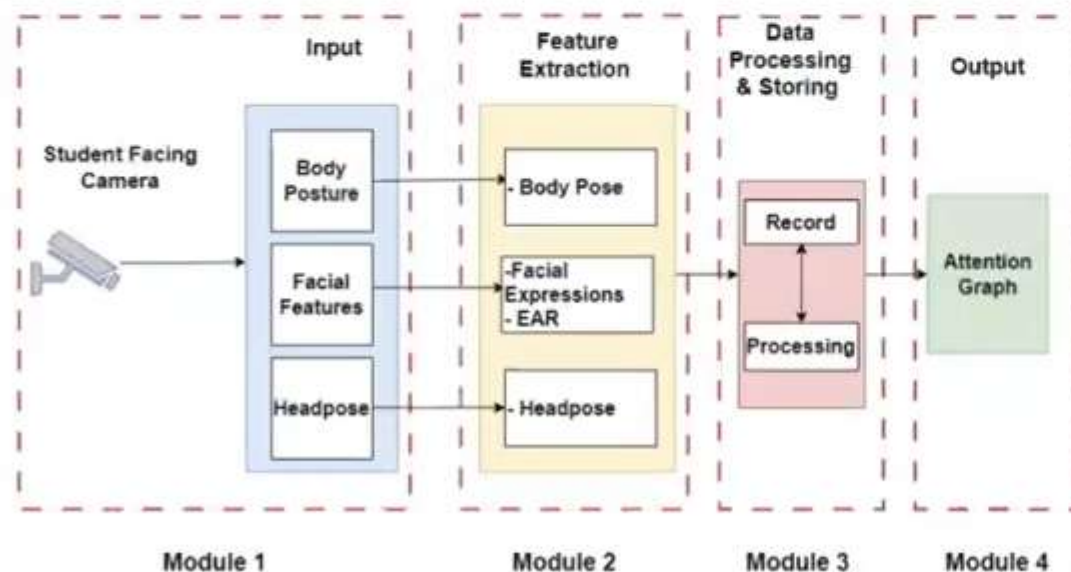
THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 - 2027)



"Digital Twin of Ships" is a virtual replica of a physical ship, powered by real-time data and simulations.



- **Goal:** Use AI and computer vision to enhance classroom engagement.
- **Components:** AI cameras, metrics analysis, and alerts for teachers.
- **Benefits:** Improve learning outcomes and teaching strategies.





AI in Education - EduTech



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AI-Enhanced Training Modules:

- AI for personalized learning
- Adapt the difficulty of exercises based on individual progress and provide real-time feedback.

iParhai



Welcome to iParhai

- iParhai is a unique e-learning solution to all the modern educational problems.
- It provides AI based adaptable and adaptive learning both through mobile & web.

Learning

- School/College Education
- Professional Courses
- University Education
- Entrance Exams

Benefits

- Artificial Intelligence Based Learning
- Affordable Learning
- Interactive Learning
- Tuition Replacement

Accessibility

- Web and Mobile
- 24X7

Awards/Achievements/ Recognition

- USAID Award
- Young Entrepreneurship Summit Award
- P@SHA ICT Award



USAID
FROM THE AMERICAN PEOPLE



P@SHA
ICT Awards
2022 Lahore



iParhai

Personalized Adaptive E-Learning

- AI Based Personalized Education
- Multiple modes of Curriculum
- Dynamic & Personalized Content
- Multi-Language Content





AI in Education



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- Developed a PC-1 for AI-based education integration, a **6.3 billion PKR** initiative
 - Focus on AI curriculum integration and teacher training
 - Enhance AI literacy across Pakistani schools
 - Inspired by successful models in China and the UAE

Curriculum Development and AI Integration in Schools

- **Key discussions with the National Curriculum Committee**
 - Significant refinements in the curriculum design
 - Holistic plan that spans from **Grade 1 onwards to Grade 12**
 - **Working group formed** as part of the **National Curriculum Review Committee**
 - **Identified key content and tools** for the curriculum
 - **AI Design Thinking Labs** have been proposed

Expected Outputs

- 100 AI Labs established
- 1,000+ teachers trained
- 50,000+ students introduced to AI
- Curriculum localized in Urdu/regional languages
- LMS platform deployed with offline capabilities





Training and Capacity Building



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AI for Leaders

First batch successfully conducted, request for AI for Leaders 2.0 is also received from the participants

**Certified Gen AI
for Leaders** ★



Certified Artificial Intelligence Professional (CAIP) –

4x batches successfully conducted

5th, 6th, 7th batches launched in August 2025



NAVTCC Training – Conducted Trainings in Prime Minister Youth Skill Development Program

1st Batch of 175 Students trained, 2nd Batch of 50 Students trained, 3rd Batch of 80 Students trained, 4th Batch of 25 Students trained from AJ&K 5th Batch of Agriculture Sector of 75 students is going to start soon



AI NEXUS Accelerator and AI & Robotics Summer Bootcamp

AI, Leadership & Entrepreneurial Summer Bootcamp for O/A Level Students

38 Students trained in Batch 1 and 72+ students trained in Batch 2



Summer Internship Program (SIP 2025) for Cadet College Hassanabdal

Certified AI in Medical Diagnostics

Soon to be launched

Certified AI Marketing Strategist

Conducted for 10x Riphah Int'l Uni



AI Development Professional (AIDP)

First Batch of 11 Students trained under online training from Okara Garrison & University of Bologna (Italy)





Capacity Building Activities in Pictures

Certifications, Training Programs, & Teacher Training



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Events

AI TechVerse 2022-23

Ideas / Startups Received for AI TechVerse 2023 = 107

AI TECHVERSE 2023

TECH FUTURE POWERED BY AI



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IEEE International Conference on Artificial Intelligence (ICAI)

3rd IEEE International Conference on Artificial Intelligence 2023

Papers Received for ICAI 2023: 174





NCAI Partners



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International



SDAIA
الهيئة السعودية للبيانات
والذكاء الاصطناعي
Saudi Data & AI Authority



WORLD BANK GROUP

Meta AI

Horizon Europe
THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021 – 2027)



CAICT
中国信息通信研究院



上海自主智能无人系统科学中心



DAAD



HACETTEPE
UNIVERSITESI

**Carleton
University**

**Coventry
University**

**Durham
University**

**UNIVERSITY OF
EXETER**

National



SUPARCO



PCRWR



پنجاب پولیس

FWO



Shifa
International
Hospitals Ltd.



IDC

17 PARTNERSHIPS
FOR THE GOALS

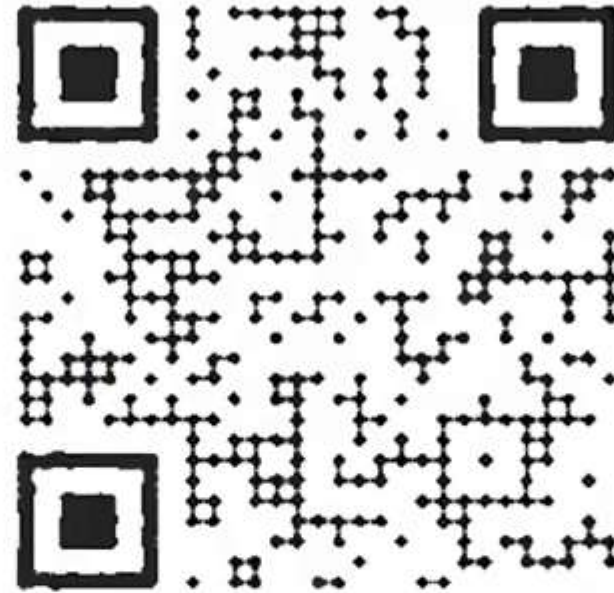




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THANK YOU
DISCUSSION SESSION