



From the Department of Computer Science

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INDIA'S AI POTENTIAL: TALENT-RICH, INVESTMENT-HUNGRY

*"INDIA HAS THE TALENT
AND OPPORTUNITY TO BE A
LEADER IN AI, BUT WE NEED
TO INVEST IN RESEARCH,
INNOVATION, AND
INFRASTRUCTURE."*

**KRIS GOPALAKRISHNAN (CO-
FOUNDER OF INFOSYS, AI
RESEARCHER FROM KERALA)**

Kris Gopalakrishnan's statement is validated by India's rapid AI growth, with over 420,000 AI professionals and the highest global AI skill penetration. The AI market is projected to reach \$17 billion by 2027, fueled by investments like Microsoft's \$3 billion expansion. Government initiatives, including the \$1.2 billion India AI mission, aim to boost AI infrastructure and research. However, challenges like talent shortages and the need for advanced computing infrastructure persist. To become a global AI leader, India must sustain investments in research, innovation, and infrastructure, ensuring long-term competitiveness in the evolving AI landscape.

MESSAGE FROM PRINCIPAL

Artificial Intelligence (AI) is no longer just a vision of the future—it is the driving force behind today's technological revolution. From healthcare innovations and autonomous systems to creative AI and responsible computing, the rapid advancements in AI are reshaping industries and everyday life in unprecedented ways.

It is heartening to see the Department of Computer Science dedicating this edition of its newsletter to exploring Current Advances in AI. The field is witnessing remarkable breakthroughs, from generative AI models transforming creativity and automation to AI-driven solutions optimizing education, governance, and decision-making processes. As we embrace these advancements, it is imperative to approach AI with ethical responsibility, ensuring that innovation aligns with human values and societal progress.



**DR SR BEENA JOSE
PRINCIPAL**

I commend the faculty and students for their commitment to staying at the forefront of technological evolution. Your efforts in fostering research, discussions, and collaborations in this domain will prepare students to navigate and contribute meaningfully to this AI-driven world.

Wishing all contributors and readers an insightful and inspiring journey through this newsletter. Let us continue to innovate, explore, and responsibly shape the future of AI.

SMART IDEAS, SMARTER TECH!

AGENTIC AI: THE NEXT EVOLUTION IN ARTIFICIAL INTELLIGENCE

Agentic AI refers to AI systems that exhibit goal-oriented behavior, actively seeking solutions and optimizing their actions based on real-time data. These AI agents are not just reactive but proactive, capable of formulating objectives, planning strategies, and executing tasks with minimal human intervention. This level of autonomy represents a significant leap from rule-based or machine-learning-driven AI systems that rely heavily on human-defined parameters.

APPLICATIONS AND IMPLICATIONS

- **Personalized AI Advisors:** Financial, healthcare, and legal AI agents that provide individualized guidance based on user-specific data.
- **Automated Business Operations:** Intelligent agents optimizing supply chains, customer support, and decision-making in corporations.
- **Smart Cybersecurity Defenses:** AI agents autonomously detecting and mitigating threats in real-time.

EXPLAINABLE AI: BRIDGING THE GAP BETWEEN AI AND HUMAN UNDERSTANDING

As artificial intelligence (AI) becomes an integral part of various industries, the need for transparency and trust in AI systems has grown significantly. Explainable AI (XAI) is a subfield of AI that focuses on making machine learning models and AI-driven decisions understandable to humans. It aims to provide clarity on how AI systems arrive at their conclusions, ensuring that users, developers, and regulators can trust and verify their outcomes.

KEY TECHNIQUES IN EXPLAINABLE AI



- **Feature Importance Analysis:** Identifying which input variables most influence an AI model's predictions.
- **Model-Agnostic Methods:** Techniques like LIME (Local Interpretable Model-agnostic Explanations) and SHAP (SHapley Additive exPlanations) that help explain AI model outputs without altering the model itself.

APPLICATIONS AND IMPACT

- **Healthcare:** Assisting doctors in understanding AI-based diagnostics and treatment recommendations.
- **Finance:** Enhancing fairness and accountability in credit scoring and fraud detection.
- **Autonomous Systems:** Improving safety in self-driving cars by clarifying AI-driven decisions.
- **Legal and Regulatory Compliance:** Ensuring AI aligns with ethical and legal standards to mitigate bias and discrimination.

CHALLENGES AND THE ROAD AHEAD

Despite its promise, XAI faces challenges such as balancing accuracy with interpretability, defining universal standards for explainability, and managing trade-offs between complexity and usability. Ongoing research and regulatory advancements are expected to drive improvements in AI transparency.

PROUD ACHIEVEMENTS

FACULTY ACHIEVEMENTS



Ms Sreekala M was awarded PhD in Computer Science from Cochin University of Science & Technology on 8 November 2024.

STUDENT ACHIEVEMENTS



➤ Rose Thomson of second-year BSc.Computer Science was acknowledged by Changemakers 2024 for her involvement in the F.A.I.R. project. She was among a select group of 32 young adults chosen from across India, conducted by Eight Goals One Foundation, New Delhi, in partnership with UNESCO

➤ Varna P B and Anusha C S of second-year Computer Science secured first prize for the Brainy Bowl- IT quiz competition in the inter-collegiate IT Fest ASPERA 4.0 conducted by the Department of Computer Applications, Sree Kerala Varma College, Thrissur

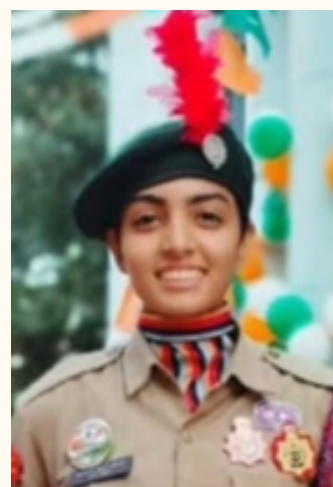
➤ Mrudula C. B, a first-year BVoc Web Technology student, won the silver medal in the South India Under-23 Wrestling Championship 2024. She also secured a gold medal in the Khelo India Judo South Zone 2024 Junior Level competition and a bronze medal in the senior level.



In addition, she achieved All India Selection and served as a trainer for the event Calicut University Wrestling (W) Championship 2024-25.

➤ Seethal Paul and SreeNandhana T S, IV Sem BSc Computer Science won the II prize in Tech Pop – IT Quiz competition held at Yukthi 2.0 conducted by St. Marys College, Thrissur

➤ Manya Manohar of Final Year BSc Computer Science was selected for the Inter Group Competition Thal Sainik Camp at Bethany Academy, Vennikulam from 16th – 24th July 2024



➤ Limcin Shaju of second year B.Voc Web Technology secured third position in WIZENGAMOT-HARRY POTTER Quiz conducted as a part of KAIROS, LITFEST'25 organized by the PG Department English, Christ College, Irinjalakuda

➤ Amitha Joy P, IV Sem BSc Computer Science, won: II prize in Code-O-Fiesta at ASPERA 4.0 (Sree Kerala Varma College, Thrissur), I prize in the Debugging competition at Yukthi 2.0 (St. Mary's College, Thrissur).

RECENT DEVELOPMENTS IN DIGITAL KERALA

K-SMART : (KERALA – SOLUTION FOR MANAGING ADMINISTRATIVE REFORMATION AND TRANSFORMATION)



Launched in early 2024, K-SMART is a comprehensive mobile application that provides seamless digital access to local government services in Kerala. It enables citizens to interact with various municipal services, lodge grievances, pay taxes, and access information related to local governance, thereby promoting transparency and efficiency.

E-EMPLOYMENT EXCHANGE KERALA



The e-Employment Exchange Kerala app, developed by the National Informatics Centre (NIC), was launched to modernize the state's employment services. It facilitates job seekers in registering for employment opportunities, renewing their registration, and accessing job-related information. Employers can also use the platform to find suitable candidates, making the recruitment process more streamlined. These applications reflect Kerala's commitment to leveraging technology for improving public services and promoting cultural initiatives.

CSPACE



In March 2024, the Government of Kerala unveiled CSpace, India's first government-owned over-the-top (OTT) streaming platform. Developed by the Kerala State Film Development Corporation (KSFD), CSpace offers a diverse range of Malayalam films, documentaries, and short films. It serves as a platform for independent filmmakers to showcase their work, aiming to support the regional entertainment industry.

OFFICE FINDER MOBILE APP



Introduced in May 2023 by NIC Kottayam, the Office Finder Mobile App assists users in locating various offices within complex establishments like the Civil Station Kottayam. The app provides detailed information about office locations, facilitating easier navigation for citizens and visitors.

These applications reflect Kerala's commitment to leveraging technology for improving public services and promoting cultural initiatives.

BEVQ



BevQ is a virtual queue management app developed to streamline liquor purchases in Kerala. Launched during the COVID-19 pandemic, it allows users to book time slots for purchasing alcohol, thereby reducing crowding at retail outlets. The app was developed by Faircode Technologies and is provided by Ke2.

K-FON (KERALA FIBRE OPTIC NETWORK)



Launched in June 2023, K-FON is a public-funded initiative by the Kerala government to provide high-speed internet connectivity across the state. It aims to bridge the digital divide by connecting over 2 million below-poverty-line (BPL) families and more than 30,000 government institutions. K-FON positions Kerala as the first Indian state to have its internet service.

ENTE JILLA



Ente Jilla is a district-specific mobile application designed to provide residents with easy access to local government services and information. Users can receive updates on district events, access contact information for various departments, and stay informed about local initiatives, fostering better community engagement.

FIRST BELL



First Bell is a digital teaching platform initiated to ensure uninterrupted education for students from grades 1 to 12 during the COVID-19 pandemic. Managed by the Kerala Infrastructure and Technology for Education (KITE), it offers virtual classes through the VICTERS television channel and online platforms, providing accessible education to students statewide.

These applications exemplify Kerala's commitment to utilizing technology for improving public services and ensuring citizen welfare.

SAMPOORNA



Sampoorna is a comprehensive school management system implemented by the Kerala Education Department. Designed to automate processes across more than 15,000 schools, it assists in managing student records, generating progress reports, and preparing examination databases. The platform aims to reduce administrative burdens and enhance efficiency in school operations.

Compiled by
Souparnika PS
IV SEM
BSc Computer Science

STUDENT SPOTLIGHT

CONGRATULATIONS

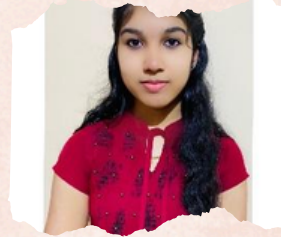
Placed at Skill Winner:



ANGEL ROSE K J



LENA MARIA



SUNAINA GIRISH



NEHA MEJO

Placed at Accenture, TCS, Planet Spark:



SREELAKSHMI K



ANANYA THOMAS



CATHERIN RAIJU

Placed at Deloitte: Placed at TCS ,
Chegg India:



VARSHA K V

Placed at Accenture:



SREELAKSHMI A A



ABIYA ALEX



JANET JOHNSON

Placed at Tenzotech as
Jr. AI Developer:



THASNEEM T F

STUDENT SPOTLIGHT

CONGRATULATIONS

Placed at UP2Tech Pvt Ltd. as Front End Developer:



SWEETY PAPPACHAN



MALAVIKA K J

Placed at Skillwinner and Neyophyte Consulting Services as Business Devleopement Intern:



MONICA RAJPUROHIT

Placed at Tenzotech as Python Developer:



ASHMI P A



JAFNA R J



ASHMI P A

Placed at Trainee Altruist Technologies as Associate trainee:



APARNA K A

Placed at Saranga Geosoftware and Engineering Services Pvt. Ltd as Telecom Engineer Trainee:



SANDRA M C

Placed at Manappuram Finance as Assistant Manager:



ASWANA TP



ARDHRA KM

Placed at Gritstone Technologies as Data Analyst:



ARDHRA KM

Placed at Thirumaloor Software Pvt Ltd as ML Engineer and SKLR Edtech Pvt Ltd as Academic Counsellor:




















TWINKLE ANTONY
AYYANTHOLE

STUDENT SPOTLIGHT

CONGRATULATIONS

Placed at Accenture:

Swathi A 	Christy Heavena C R 	Anamika C S 	Aneena Mariya Davis K 	Akhila M G 
Lin Mary Saju 	Jeslin K J 	Athika Thasni V S 	Megha K V 	Arsha Raj 
Angila Maria 	Juliya Rose Joby 	R Sritranjini 	Manya Manohar 	Apama N A 
Neha Vijo 		Alji George T 		

Placed at Edustation:

Elna Maria Steephan 	Ann Mariya Joju 	Athika Thasni V S 
Adithya Sunilkumar 	Swetha K S 	

STUDENT SPOTLIGHT

CONGRATULATIONS

Placed at Accenta Education:



Placed at Michael's Academy of Communicative English:



Placed at Proxy placements as Business Development Executive:



Placed at Shivox technologies as Web Developer Intern:



TECH TIDBITS

- **Every iPhone advertisement has the time set to 9:41:**

Every advertisement for an Apple iPhone, the time will be set as 9:41. This is the time that Steve Jobs announced the very first iPhone in 2007.



- **Internet users blink less than usual:**

An average of 7 times per minute, when the average is 20 times. Now you know why you need to put all that eye drops in your eyes.

- **In 2014, a hacker used a refrigerator to send spam emails!**

A botnet hijacked smart appliances—fridges, TVs, and even thermostats—to send 750,000 phishing emails. With weak security, these everyday gadgets became easy hacker targets. Today, even smartwatches and electric toothbrushes can be exploited! This highlights the growing need for better cybersecurity in the expanding IoT world.

- **The first ever computer virus was developed in 1971, named Creeper:**

It was created as an experiment to see how it could spread between computers. It had no malicious intent other than to display the message 'I'm the creeper, catch me if you can!'. With each new computer infected, Creeper would try to remove itself from the previous host.



- **There are two reasons why the @ was included in the email addresses :**

The first one, which was a rarely used icon. The second one, which in Latin means “in”, gives meaning to the addresses (for example, user (in) provedordecorreo.com).

- **Changing fonts can save printer ink:**

Switching to a lighter font can save about 10% of ink when printing with inkjet printers that use old style cartridges.

- **Bill Gates house was designed using a Mac computer:**

Although most of the design was drawn by hand, the remainder was designed on a Mac.

CODECRYPT

How many
Software & Computer Technology
related words can you spot?

B	Z	V	L	C	Q	O	F	F	I	C	E
D	A	T	A	H	T	W	T	H	V	L	I
R	P	H	O	T	O	S	H	O	P	M	E
M	R	U	D	O	W	N	L	O	A	D	M
A	L	G	O	R	I	T	H	M	Z	P	A
P	A	W	E	B	S	I	T	E	P	X	I
W	J	M	I	C	R	O	S	O	F	T	L
W	I	N	R	A	R	E	S	K	Y	P	E

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