INSTITUTIONS' INNOVATION COUNCIL
SESHDRI RAO
GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada
Seshadri Rao Knowledge Village, Gudlavalleru–521356, Krishna (Dt), AP, India

Annual Report 2023-24

IIC ID: IC201811918

By
SRGEC TECHDOC
Innovation and Incubation Cell

A. About IIC Institute:

The college is promoted by AANM & VVRSR Educational Society, Gudlavalleru and was established in 1998. The college is situated in Gudlavalleru, surrounded by lush green fields, providing serene atmosphere to learners. The college offers B.Tech. programmes in eight branches of Engineering viz, Civil, Electrical & Electronics, Mechanical, Electronics & Communication, Computer Science, Information Technology, Artificial Intelligence & Data Science, Internet of Things and CSE (Artificial Intelligence and Machine Learning) with a total intake of 1320. It also offers five PG programmes in Engineering (M.Tech.) and Business Management (MBA). The college is permanently affiliated to JNTUK, Kakinada and obtained the Autonomous status from U.G.C. in the year 2014 and the status is extended till 2025. All the eligible branches of engineering are accredited by NBA, New Delhi. The Institution is continuously striving for excellence by adopting changes to improve the systems, practices and performance levels.

➢ **Vision of IIC established at the Institute:**

To develop a world-class, self-sustaining startup ecosystem that fosters knowledge-based, technologically different, socially relevant ventures to make a positive economic impact in the region, state, nation, and the world.

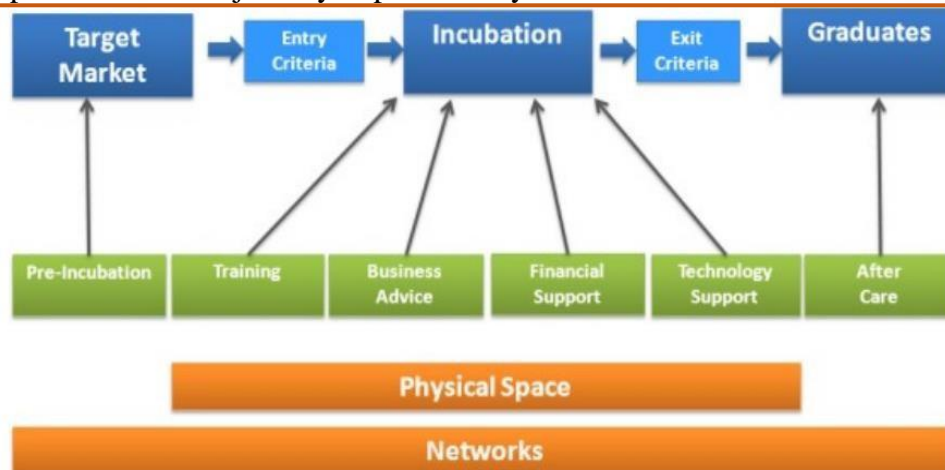➢ **Mission of IIC established at the Institute:**

Aims to accelerate the creation of new businesses, employment and jobs in tech and non-tech sectors aligned with unique opportunities.

- Inspiring entrepreneurial spirit and promoting innovation.
- Identify, explore, and enhance regional competitiveness.
- The university and local institutes should better leverage their intellectual property for knowledge transfer and higher productivity.
- Linking universities, businesses, and research institutions.
- Assist emerging technology businesses with growth and success.
- Making the local economy more competitive.
- A support program for high-growth SMEs.
- Employment creation.
- Support for the development of clusters within certain industries.

➢ **Objectives**

To develop and nurture a culture of innovation and experimentation among students.

- To create an entrepreneurial ecosystem on campus to incubate and support new ideas innovations.
- To help translate innovative ideas into reality and upgrade them to the level of commercial value.
- To build a network of industry experts to mentor young startups.
- To partner with technology services to provide useful tech infrastructure for the development of products and services.
- To create promotional interventions to attract investors so that they may guide entrepreneurs on their journey to profitability.
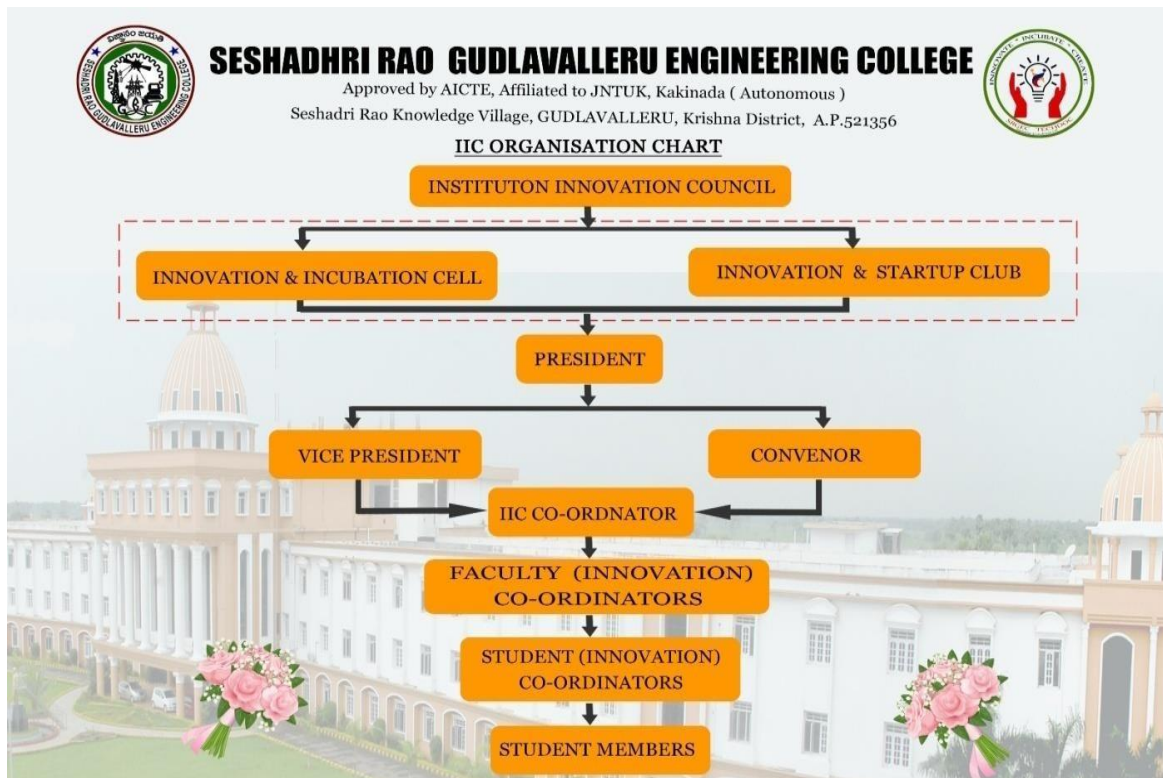

➢ **Journey of IIC established at the Institute:**

- IIC was established in the College during the academic year 2019-20 immediately on receiving the instructions from MHRD to start up IIC in the higher education institutes.
- IIC at Seshadri Rao Gudlavalleru Engineering college (SRGEC), Gudlavalleru started in August 2019
- SRGEC is positioned in the band of 100-150 for the year 2023 in NIRF, innovation category is a testament to our dedication and ingenuity. It reflects our commitment to pushing the boundaries and finding novel solutions to complex challenges.
- IIC SRGEC TECHDOC Secured 2 star ranking in 2019-20 and 3.0 star ranking in 2021-22, 3.5 star ranking in 2022-23 and aiming for 4.0 star ranking in 2023-24.

- Till date SRGEC TECHDOC has conducted 180+ Innovation related activities, Ideacompetition, project competitions, boot camps etc since 2019.

➤ **Diversified representation in the IIC established at the institute from industry, Interdisciplinary & Departments/ Units etc.**
SRGEC TECHDOC, IIC has representation from various departments in the College, industry, Alumina etc.

S.No.	Name	Association	Position
1	Mr. D. Anvesh	Effectronics Pvt. Ltd	Industry Member
2	Mr. T. Prem Chand	SBI Bank/Investor	Industry Member
3	Udyan Bakshi	Academic Innovations	External Member
4	Mr. Himanshu Kumar	Indwell Automation	Industry Member
5	Mr. G. Alok	KL- ACIC Center	External Member
6	Mr. Nandha Kishore	BHEL	Industry Member

B. Brief mention of key functionaries at the IIC Institute:

Dr. B. Karuna Kumar, SRGEC TECHDOC and our Incubation Cell's annual report reflect a year of innovation and collaboration. From enhancing tech documentation to nurturing startups, we're driving change together. Here's to progress, partnerships, and a future filled with possibilities.

Dr. M.R.Ch.Sastry, In our annual report, SRGEC TECHDOC and the Incubation Cell stand out as pillars of innovation. Nurturing ideas, advancing documentation, and propelling startups reflect our commitment. Grateful to all contributors for shaping a dynamic academic ecosystem.

Dr. P. Kodanda Rama Rao, This annual report highlights SRGEC TECHDOC and the Incubation Cell as drivers of innovation. From refining tech documentation to fostering startups, we're dedicated to transformative growth. We extend heartfelt appreciation to all partners for cultivating a vibrant academic environment.

Dr. B. Mahesh Baabu, as we unveil the annual report, SRGEC TECHDOC and the Incubation Cell take center stage, exemplifying innovation's power. Through refined tech documentation and thriving ideations, we celebrate progress. Gratitude to our collaborators for enriching the academic landscape.

➤ IIC Members for the Academic Year 2023-24

S.No.	Name	Designation	Position
1	Dr. B. Karuna Kumar	Principal	President
2	Dr. P. Kodanda Rama Rao	Vice Principal Administration	Vice President
3	Dr. M.R.Ch.Sastry	Vice Principal Academics	Convener
4	Dr. B. Mahesh Babu	Associate Professor of EEE	Coordinator, Innovation
5	Dr. D. Prabhakar	Associate Professor of ECE	Coordinator, Internship
6	Dr. T. Srinivasa Rao	Professor of CSE	Coordinator, Startup
7	Dr. P.S.S Sreedhar	Associate Professor of IT	Coordinator, Social Media
8	Dr. K. Prudhvi Raj	Assistant Professor of MBA	Coordinator, IPR
9	Dr. Eswar Sala	Assistant Professor of CE	Member
10	Dr. K. Kalyan Raj	Assistant Professor of EEE	Member
11	Dr. G.V. Jagadeesh	Assistant Professor of ME	Member
12	Mr. Tadiparthi Mothilal	Assistant Professor of AI&DS	Member
13	Mr. N. Gowthami	Assistant Professor of IoT	Member
14	Dr. V. Radha Ramani	Assistant Professor of BS&H	Member

C. Portfolio/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution:

Total No. of IIC Members	Total No. of IAs	Total No. of faculty Mentors	Pre-Incubation Units, If any	From Portal Incubation Units, If any	IP Facilitation Unit, If any
256	13	12	1	1	1

D. Highlight Facilities, Infrastructure of Pre-Incubation & Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus:

The Facilities, Infrastructure of Pre-Incubation & Incubation is given in the following link:
https://drive.google.com/file/d/1gLp055ehn8hmCupXHNvRFD5CFUXPnJAJ/view?usp=drive_link

The following clubs offer ample opportunity to students to showcase their innate talents in innovation and incubation, entrepreneurial and startup activities.

1. Green club
2. Coding club
3. Innovation and start up club
4. Electronics hobby club
5. Media Club
6. Drone Club

Latitude 16; 21; 11.8020000000034...
Longitude 81; 2; 30.846000000001955...
Altitude 67
Research Centre (N-404)

Latitude 16; 21; 1.3260000000095974
Longitude 81; 2; 31.8119999999762442
Altitude 67
Project Lab: C04A

Latitude 16; 21; 11.79000000000...
Longitude 81; 2; 30.912000000011...
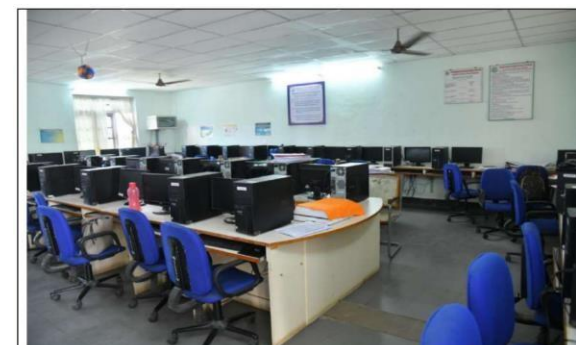Altitude 65
Modelling and Analysis Lab : N-211

Latitude 16; 21; 8.957999999998...
Longitude 81; 2; 32.843999999982...
Altitude 68
Material Testing Research Centre: B-09

Latitude 16; 21; 4.5840000000253272
Longitude 81; 2; 33.2820000000065264
Altitude 67
R&D Lab: M204

Latitude 16; 21; 1.1639999999707...
Longitude 81; 2; 28.08000000001630...
Altitude 67
CSE R&D Projects Lab (M-304)

Latitude	16; 21; 1.32600000000095...
Longitude	81; 2; 31.811999999976244
Altitude	67

Biometric Research & Development Lab: M-329A

Latitude	16; 21; 8.957999999998...
Longitude	81; 2; 32.843999999982...
Altitude	68

Project Lab: C-01

E. Achievements:

S. No	Title	Total
1	Number and different types of I&E and IPR activities conducted	**54**
2	No. of Students and Faculty ideas generated	**600**
3	No. of Students and Faculty Innovation/ Prototypes developed	**600**
4	No. of IPs generated, Published and Granted	**26**
5	No. of Student and Faculty Start-ups / Ventures established	**6 (yet to register)**
6	Amount spent on promotion and awareness generation on innovation Entrepreneurship in the campus	**8.44 lakhs**
7	Amount grant or fund supported to student and Faculty lead Innovations, Start-ups and IPR	**30 lakhs from in-house seed money and external funding**
8	No. of Technology Transfer and Commercialization happened	**6 (yet to register)**

F. Highlight few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forum:
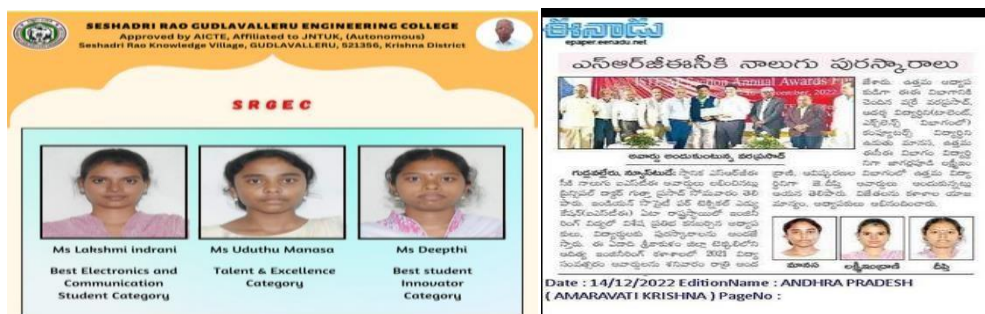### ❖ Faculty members:

Details of Patents Received by the Faculty of the SRGEC			
S.No.	**Title of the Patent**	**Agency which has awarded the patent**	**Year**
1	AI Based Driver Drowsiness Detecting Device (UK Design Grant) (Published)	Comptroller-General of Patents, Designs and Trade Marks Intellectual Property Office	2023
2	Design of Smart Electrically Heated Tobacco Flue Curing Chamber And A Method there of (Published)	The Patent Office, Govt. of India	2024
3	Augmented Reality Integrated System and method for Physiotherapy Monitoring And Training Using Machine Learning (Published)	The Patent Office, Govt. of India	2024
4	Solar and Wind Energy Integration System For Hybrid Vehicles (Published)	The Patent Office, Govt. of India	2023
5	System and Method for Hybrid Electric Vehicle Energy Management using Deep Learning and cloud computing (Published)	The Patent Office, Govt. of India	2023
6	Advancements in Wildlife Management: Machine Learning-Driven Sensor Data Fusion for Animal Monitoring (Published)	The Patent Office, Govt. of India	2024
7	Hybrid Timber Structures for High Rise Buildings for Colder Temperature Regions (Published)	The Patent Office, Govt. of India	2024

8	A Digital Financial Device Forecasting and Analyzing Stock Transactions (Published)	The Patent Office, Govt. of India	2024
9	An AI-based system for alerting aircrafts and method of operating the same (Published)	Intellectual Property India, Official Journal of the Patent Office, GOI, India	2024
10	Advanced system for house price prediction using linear regression (Published)	Intellectual Property India, Official Journal of the Patent Office, GOI, India	2024
11	Transmission gate buffered full adder circuit for high performance computing and method of operating the same (Published)	Intellectual Property India, Official Journal of the Patent Office, GOI, India	2024
Awarded/Received			
12	An Automotive Alloy Wheel Rim (Granted)	The Patent Office, Govt. of India	2024
13	Ball Bearing With Enhanced Outer Ring Interference (Granted)	The Patent Office, Govt. of India	2024
14	Two-Wheeler Clutch Lever (Granted)	The Patent Office, Govt. of India	2024
15	An Automotive Alloy Wheel Rim (Granted)	The Patent Office, Govt. of India	2024
16	Mobile Device With Camera (Granted)	The Patent Office, Govt. of India	2024
17	An Automotive Tyre(Granted)	The Patent Office, Govt. of India	2024
18	IOT Enabled Water Tank (Granted)	The Patent Office, Govt. of India	2024
19	Industrial Robot With Gripper Resembling Human Hand (Granted)	The Patent Office, Govt. of India	2024
20	Bicycle (Granted)	The Patent Office, Govt. of India	2024
21	Mobile Device With Camera (Granted)	The Patent Office, Govt. of India	2024
22	IOT Enabled Water Tank (Granted)	The Patent Office, Govt. of India	2024
23	Multiple Compartments of Smart Trolley with Automatic Separation Means (Granted)	The Patent Office, Govt. of India	2024
24	Blockchain-Enabled Computer Device For Enhancing Computer Network Safety (Granted)	Intellectual Property Office, UK	2024
25	Mart Hand Sanitizer Making And Dispensing Machine (Granted)	Intellectual Property India, Official Journal of the Patent Office, GOI, India	2024
26	Smart Farm Fence (Granted)	Intellectual Property India, Official Journal of the Patent Office, GOI, India	2024

❖ Student members:
  ➢ Two Teams were into finals of **Smart India Hackthon 2023**
  ➢ Three Teams were selected for **National Innovation Challenge-2023**
  ➢ Indian Institute for Technical Education (ISTE), Andhra Pradesh Division, announced Ms. J.Deepthi of ECE in Best Student Innovator category at function held at Aditya Engineering College, Tekkali, Srikakulam. Recipients received awards from the Chief Guest of the programme, Prof.K.Hemachandra Reddy, Chairman, AP State Council for Higher Education.

- The third-year AI&DS students from SRGEC, K. Raghavendra Karthik and A. Shanmukha Srinivas, won third place for their project, "Auto D-Oxy Tech," developed under the company name Jalvayu, focusing on aquaculture. They received a one lakh grant from ALEAP WE HUB at the hackathon held on August 13-14, 2024. Certificates were awarded by Kondapalli Srinivas, Honorable Minister of MSME and SERP, Government of Andhra Pradesh, on August 21, 2024, at Mary Stella College.

- Mr Vijay Rohith of III. B.Tech of Dept. of ECE own FIRST PRIZE in Electronic Debate held at VR Siddhartha Engineering College, Kanuru Vijayawada on 24.02.2023. College Officials congratulated the winner.

- Dept. of ECE: Mr. MVS Karthik and Mr.K. Dhanesh of III B.Tech got SECOND PRIZE in Poster Presentation competition held at NRI Institute of Technology, Agiripalli. College Officials congratulated the winners.

- Teja, mani, subhash and his team, Department of IOT, SRGEC studying III B.Tech have participated for Drone competition, ON OCCASSION OF ANNUAL FEST OF VR SIDDHARTHA ENGINEERING COLLEGE, they won second prize - 2000/- (cash prize) with certificate.

- One of the first prize to students of AI&DS, SRGEC for AI based smart attendance monitoring system. This is further selected in national innovation challenge-2023.

- One of the second prize to students of AI&DS, SRGEC at KL-ACIC center and Third prize of innovation challenges in AY 2022-23 at other neutral venues.
- Grabbed four first, six second and eight third prizes in intra and inter smart Hackthons / Ideathons.

G. Highlight selected best Innovations & images with mention of inventor/innovation name:

1. **Technology Developed:** Low cost Electrical golf cart by Students of EEE
   Faculty Mentors: Dr. B. Dasu, Dr. B. Madhu Kiran and Dr. K. Kalyan Raj, **Students Members**: Jannu sai deepak (19481A0225), Garapati tejaswi (19481A0217), Konakalla durga bhavani (19481A0237), Kondeti venkata dasu (19481A0238), Segu sri harshitha (19481A0275), Potu subbarao (19481A0267) Pathuri ajay (19481A02264, Pilli teja (19481A0266), lingam kavya(19481A0244), abdul kabir(19481A0202), kota anusha(19481A0240), k keerthana(19481A0239), mocharla pavani (20485A0220), venkata raghavendra prabhu chimata (19481A0283), maganti gayathri devi(19481A0246), mamidi durga rao(19481A0247).

2. **Technology Developed :** Low cost Electrical Bike by Students of ME
   Faculty Mentors: Sri. T. Naga Raju, Sri. K. Ramaknth

3. **Technology Developed:** Onsite Generation based Electrical Tricycle
   Inventor: Dr. B. Mahesh Babu, Associate Professor of EEE

H. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name:

➢ SRGEC Techdoc, IIC to introduce an economical aerator technology "Auto D-Oxy Tech- Jalaayu" for aquaculture.

➢ SRGEC Techdoc, IIC to introduce an economical electrical barn for tobacco farmers. Test setup is successful and completely automated

➢ SRGEC Techdoc, IIC to introduce an economical autonomous vehicle and Electrical Golf Cart, merging affordability and eco-friendliness.

➢ SRGEC Techdoc, IIC is planning to launch an affordable Electrical Bike. This venture reflects their commitment to economical yet eco-conscious transportation solutions.

➢ SRGEC Techdoc, IIC Introducing "Krishak," a pioneering agriculture-based app. Designed to transform farming practices, it offers vital insights, weather updates, market trends, and expert guidance.

➢ Kidz by eVirtual Experimentation is an innovative edtech solution. It revolutionizes learning through virtual experiments, engaging young minds in interactive scientific exploration.

I. List if any break through Innovations / Technology Developed at the Institute:

Electrical golf cart by Students of EEE   Electrical Bike by Students of ME

J. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting especially for the schemes or programs:

❖ On behalf of SRGEC, Dr. B. Mahesh Babu, IIC coordinator and Dr. K. Ashok Reddy, Mentor of AI&DS attended IIC Regional Meet, January, 2024 and enacted as evaluator of Ideas for on 06.01.2024 at KL University, Vaddeswaram, Andhra Pradesh, India.

❖ On behalf of SRGEC, Dr. B. Karuna Kumar, IIC president, Dr. G.V.S.N.R.V. Prasad, Director PGCRD and Dr. B.Mahesh Babu, IIC coordinator attended National Level awards ceremony at Merry stella College, Vijayawada, on 21st August 2024 to receive a token of appreciation from AIC ALEAP WE HUB in contribution to 24hrs hackathon participation on 13th and 14th August 2024 and contributions to ALEAP WE HUB who has MoU with Seshadri Rao Gudlavalleru Engineering College. Sri. Kondapalli Srinivas, Honorable Minister of MSME and SERP, Government of Andhra Pradesh graced the dias.

❖ On behalf of SRGEC, Dr. B. Mahesh Babu, IIC coordinator participated in Boot camp and shared his insights to student innovators and enacted as evaluator for designed projects held in February 2024 at ACIC centre and IDEA lab of SRKR, Bhimavaram.

K. Detail of social media & Connections of IIC institute:

𝕏   https://twitter.com/GecGudlavalleru

f   https://www.facebook.com/SRGECGudlavalleru

▶   https://www.youtube.com/@srgecgudlavalleru/videos

📷   https://www.instagram.com/gecgudlavalleru

in   https://www.linkedin.com/company/seshadri-rao-gudlavalleru-engineering-college

L. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell:

Mr. K. Ashok Reddy M.Tech, (Ph.D)
Assistant Professor AI&DS

The Innovation and Incubation Cell has catalysed a paradigm shift in how our college approaches AI and data science education." As a machine learning faculty member, I am very pleased by the hands-on learning experiences made possible by this cell. Students aren't just learning about theoretical concepts; they're actively experimenting with AI algorithms, investigating data sets, and creating insights that fuel innovation. The emphasis on incubation and entrepreneurship in the cell enables students to apply AI-driven solutions to real-world situations, cultivating a feeling of purpose and impact.

K. Raghavendra, AI&DS Student

Through immersive projects, workshops, and mentorship, I've had the opportunity to fuse theoretical AI concepts with practical applications. The incubation component has allowed me to take my data-driven ideas and shape them into real-world solutions with the guidance of experienced mentors. It's not just about data; it's about turning data into actionable insights.

The detailed Testimonial review is given in:
https://drive.google.com/file/d/1rEFnLjhY8dAtbHEElQpO-a38t6vGdTg-/view?usp=sharing

M.Images

The full details of activity report for the academic year 2023-24 with images is given in link below:
https://drive.google.com/file/d/19Ztu9g1FZ0xqtjo6i48wgElAKkxR31sP/view?usp=drive_link

O. Contact

PRINCIPAL	VICE PRINCIPAL (ACADEMICS)	VICE PRINCIPAL (ADMINISTRATION)	COORDINATOR Innovation and Incubation Cell
Dr. B. Karuna Kumar	Dr. M.R.Ch.Sastry	Dr. P. Kodanda Rama Rao	Dr. B. Mahesh Babu
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Phone no: 9848779121	Phone no: 8096421234	Phone no: 7036666216	Phone no: 8555026043