

### INAUGURAL ADDRESS

**Mrs. Malagopal,**  
Founder & Director,  
Kural Koodal Semozhi Foundation,  
Houston, Texas, USA

### PRESIDENTIAL ADDRESS

**Dr.S.Subbiah,**  
Chairman & Advisor,  
Sri Raaja Raajan College of Engg.&Tech.  
Amaravathiputhur, Karaikudi.

\*\*\*\*\*

### RESOURCE PERSONS:

**Mr.Adhigopal,**  
Chief Guest,  
Dept. of CSI  
University of Houston, Texas, USA

**Mr.Lenasechar,**  
Special Guest,  
Founder & CEO  
YAGEN ROBOTICS, Chennai

**Dr.S.J.Satish Aaron Joseph,**  
HoD of Computer Application,  
J.J. College of Arts & Science,  
Pudukottai.

### STEERING COMMITTEE

#### CHIEF PATRONS

**Dr.S.SUBBIAH,**  
Chairman, Sri Raaja Raajan College of Engg.&Tech.

#### PATRONS

**Dr.AL.MAYIL VAHANAN,**  
Principal, Sri Raaja Raajan College of Engg.&T&ch.

#### CONVENERS

**Prof. S.AANJAN KUMAR, M.E.,**  
Head of the Department, CSE

#### COORDINATORS

**Mrs.M.SINDHU, M.E.,**  
Assistant Professor, CSE

**Mrs.V.MANJU, M.E.,**  
Assistant Professor, CSE

**Ms.N.ANGA ARKANNI, M.E.,**  
Assistant Professor, CSE

#### REGISTRATION

Students(UG/PG) : Rs.1000/-

Faculty : Rs.500/-

Research Scholars : Rs.700/-

Last Date for Registration : 10.01.2022

### INTERNATIONAL CONFERENCE

On

**RECENT TRENDS IN ARTIFICIAL  
INTELLIGENCE, ROBOTICS &  
CYBER SECURITY  
2022-23**

11<sup>th</sup> January, 2022



Organized by  
**DEPARTMENT OF COMPUTER SCIENCE  
ENGINEERING  
SRI RAAJA RAAJAN COLLEGE OF  
ENGINEERING & TECHNOLOGY**

(Approved by AICTE & Affiliated to Anna University)

Amaravadiipudur, Karaikudi- 630301.

Phone: 7373711343

Email: [srrcet2010@gmail.com](mailto:srrcet2010@gmail.com)

Website: [www.sriaraajaraajan.in](http://www.sriaraajaraajan.in)

### ABOUT SRR CET

**SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY** is a technical institution promoted by **Sri Muthumari Educational Trust**, Established in the year 2010. The college is approved by All India Council of Technical Education (AICTE), New Delhi and is affiliated to Anna University, Chennai.

### COURSES OFFERED

#### UG Programme

- B.E. Computer Science & Engineering
- B.E. Electronics & Communication Engg.
- B.E. Electrical & Electronics Engineering
- B.E. Mechanical Engineering
- B.E. Civil Engineering

#### PG Programme

- M.E. Computer Science & Engineering

### THE DEPARTMENT

The Department of CSE was started in the year 2010 and offers B.E degree programme. The departments has various laboratories and well-qualified and experienced faculty. The departments have MOU signed with leading companies.

### ABOUT THE CONFERENCE

- If you are planning to learn the robotics technologies and want to know that how to build them.
- This will give you a better understanding for the all concept.
- Better understanding the requirement for a specific technology.

#### ARTIFICIAL INTELLIGENCE:

Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience

#### ROBOTICS:

Robotics is an interdisciplinary branch of computer science and engineering. Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans

#### CYBER SECURITY:

Cyber security is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks. It's also known as information technology security or electronic information security. The term applies in a variety of contexts, from business to mobile computing, and can be divided into a few common categories.

### REGISTRATION FORM RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS & CYBER SECURITY

11<sup>th</sup> January, 2022

Name :  
Designation :  
Institution :  
Male/Female :  
Edu. Qualifications :  
Experience :  
Mailing Address :  
Phone :  
Fax :  
Email :

#### Details of Registration fee

DD No. :  
Dated :  
Drawn on :

Signature of Applicant





**RTIAIRACS**

*International Conference on*

**SRI RAAJA RAAJAN**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(Approved by AICTE, New Delhi & Affiliated to Anna University)  
AMARAVATHIPUDUR, KARAİKUDI-630 301. SIVAGANGAI DIST.  
**DEPARTMENT OF COMPUTER SCIENCE**

*Organizes*

*International Conference on*

**RECENT TRENDS IN ARTIFICIAL  
INTELLIGENCE  
ROBOTICS AND CYBER SECURITY**

Date : 11<sup>th</sup> January 2022, 10.30 a.m.  
Venue : College Campus Seminar Hall,

*Presidential Address*

**Dr. S.SUBBIAH**

Former Vice Chancellor,  
Alagappa University, Karaikudi.

*Inaugural Address*

**Mr.PANEER SEETHAPATHY,**

Associate Director, Accenture,  
Houston Texas, USA.

*Chief Guest*

**Mrs. MALA GOPAL**

Founder & Director  
Kural Koodal Semmozhi Foundation,  
Houston, Texas, USA

*Special Guests*

**Mr. ADHI GOPAL**

Department of Computer Science  
University of Houston, Texas, USA

**Mr. LENA SEKAR**

Founder & CEO, Yagen Robotics, Chennai

**Dr. S.J.SATHISH AARON JOSEPH**

Head, Department of Computer Applications  
JJ College, Pudukkottai

*All are Cordially invited*

**AL.MAYILVAHANAN**

Principal



**Sri Raaja Raajan College of Engineering and Technology**  
**Amaravathputhu Post, Karaikudi Tk**

**International Conference on Recent Trends in Artificial Intelligence, Robotics and Cyber Security**

S. No.	First Author(s)	Second Author(s)	Designation / Course Studying	Institution	Title	Student / Scholar / Faculty
1	Meenatchi T M.Sc., Computer Science, Department of Computer Science, Alagappa University, Karaikudi 630 003	-	I M.Sc Computer Science		Types of Cyber Security	Student
2	Sathya K -Do-	-	I M.Sc Computer Science			Student
3	Abinaya M -Do-	-	I M.Sc Computer Science			Student
4	Sneha R Do-	-	I M.Sc Computer Science			Student
5	Aravinth S Do-	-	I M.Sc Computer Science			Student
6	Shree Chithambaram -Do-	-	I M.Sc Computer Science		Challenges in Robotics	Student
7	Swetha L Do-	-	I M.Sc Computer Science			Student
8	Priyadharshini P -Do-	-	I M.Sc Computer Science			Student
9	Mathumitha K -Do-	-	I M.Sc Computer Science			Student
10	Sivagurunathan K -Do-	-	I M.Sc Computer Science			Student
11	Swathilakshmi K -Do-	-	I M.Sc Computer Science			Student



12	<b>Rajapandian A</b> -Do-			I M.Sc Computer Science	Department of Computer Science, Alagappa University, Karaikudi	Artificial Neural Network	Student
13	<b>Vedhasri J</b> Do-	-	-	I M.Sc Computer Science			Student
14	<b>Yuvasri R</b> Do-	-	-	I M.Sc Computer Science		Student	
15	<b>Rabeshna</b> Do-	-	-	I M.Sc Computer Science		Student	
16	<b>Palanikumar M</b> -Do-		-	I M.Sc Computer Science		Student	
17	<b>Vetrivel K</b> Do-	-	-	I M.Sc Computer Science		Student	
18	<b>Shalini S</b> Do-	-	-	I M.Sc Computer Science		Artificial Intelligence Features	Student
19	<b>Shanithi A</b> Do-	-	-	I M.Sc Computer Science			Student
20	<b>Meena S</b> Do-	-	-	I M.Sc Computer Science		Student	
21	<b>Sudhaharan NS</b> -Do-		-	I M.Sc Computer Science		Student	
22	<b>Manikandan.M</b> -Do-		-	I M.Sc Computer Science		Student	
23	<b>Surya.S</b> Do-	-	-	I M.Sc Computer Science		Study On Artificial Intelligence Applications In Games	Student
24	<b>Mohamed Jassim. M</b> -Do-		-	I M.Sc Computer Science			Student
25	<b>Hariharan.NS</b> -Do-		-	I M.Sc Computer Science		Student	
26	<b>Rubina.S</b> Do-	-	-	I M.Sc Computer Science		Student	
27	<b>Kowsalya.C</b> Do-	-	-	I M.Sc Computer Science		Student	
28	<b>Janani.K</b> Do-	-	-	I M.Sc Computer Science		Empowering AI In Future Wireless Networks	Student

29	Saranya Devi.P -Do-			I M.Sc Computer Science		Student
30	Sandhya.R Do-			I M.Sc Computer Science		Student
31	Aiswarya Lakshmi.G -Do-			I M.Sc Computer Science		Student
32	Afrin Begum.RJ -Do-			I M.Sc Computer Science		Student
33	Keerthana.S -Do-			I M.Sc Computer Science	Survey On Service Robotics	Student
34	Yogeshwari.M -Do-			I M.Sc Computer Science		Student
35	Ranjani.J Do-			I M.Sc Computer Science		Student
36	Kaviya.V -Do-			I M.Sc Computer Science		Student
37	Bhuyaneswari.S -Do-			I M.Sc Computer Science		Student
38	Kunitha.M Do-			I M.Sc Computer Science	Survey On Human System Interaction Using AI	Student
39	Rohini.T Do-			I M.Sc Computer Science		Student
40	Keerthana.S -Do-			I M.Sc Computer Science		Student
41	Ananth M R M.Sc., Information Technology, Department of Computational Logistics, Alagappa University, Karaikudi 630 003			I M.Sc Information Technology	Digitalization of Farm Land Security: An IoT Based Approach	Student
42	Siva K Do-			I M.Sc Information Technology		Student
43	Nithiyashri A -Do-			I M.Sc Information Technology		Student

Logistics, Alagappa University,  
Karaikudi

44	<b>Abarna B</b> -Do-	-	<b>Prof. Senthil Rajan</b> Professor & Head, Department of Computational Logistics, Alagappa University, Karaikudi 630 003	I M.Sc Information Technology	Department of Computational Kara		Student		
45	<b>Durgadevi B</b> -Do-			I M.Sc Information Technology			IoT based food quality monitor	Student	
46	<b>Asika P</b> -Do-	-		I M.Sc Information Technology				Student	
47	<b>Mohamed Azarudeen S</b> -Do-		-	I M.Sc Information Technology				Student	
48	<b>Harihara Sudhan S</b> -Do-		-	I M.Sc Information Technology				Student	
49	<b>Subraja R</b> M.Sc., Computer Science, Department of Computer Science, Alagappa University, Karaikudi 630 003	II	<b>Dr. Santhoshkumar</b> Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	II M.Sc Computer Science	Department of Computer Science, Alagappa University, Karaikudi		IoT based Noise Pollution Monitoring System	Student	
50	<b>Nithya G</b> M. Phil Scholar, Department of Computer Science, Alagappa University, Karaikudi		<b>Dr. Santhoshkumar</b> Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	M.Phil Computer Science				Secure Healthcare System With Insurance Processing Using Blockchain	Student
51	<b>Swathi Priya K</b> -Do-	-	<b>Dr. Santhoshkumar</b> -Do-	M.Phil Computer Science				Deep Learning Techniques For Estimation Of Crop Yield	Student
52	<b>Maheswari M</b> -Do-		<b>Dr. Santhoshkumar</b> -Do-	M.Phil Computer Science				DNA Cryptography for Secure Data Communication Processing System	Student
53	<b>C. Parvathi</b> -Do-		<b>Prof. Padmapriya Arumugam</b> Professor, Department of Computer Science, Alagappa University, Karaikudi	M.Phil Computer Science				Prediction Of Student's Academic Performance By Hybridized Random Forest And Logistic Regression Algorithm	Student
54	<b>N. Sanchiga Nandhini</b> -Do-		<b>Prof. Padmapriya Arumugam</b> -Do-	M.Phil Computer Science				Banking With Digital Currencies Using Blockchain Technology	Student



55	<b>G. Kasthuri</b> -Do-	<b>Prof. Padmapriya Arumugam</b> -Do-	M.Phil Computer Science	Department of Comp	Enhanced Data Privacy Using Vertical Fragmentation And Data Anonymization Techniques	Student
56	<b>Uma R</b> Research Scholar, Department of Computer Science Alagappa University Karaikudi	<b>Dr. Santhoshkumar</b> Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	Ph.D Computer Science	Department of Comp	Intelligent Method for prediction of Autoimmune Arthritis Disease using Machine Learning Algorithm	Scholar
57	<b>J Arumai Ruban</b> Research Scholar, Department of Computer Science Alagappa University Karaikudi	<b>Dr. Santhoshkumar</b> Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	Ph.D Computer Science	Department of Comp	A comparative study of the IOT drip irrigation system models	Scholar
58	<b>Dr. C. Balakrishnan</b> Associate Professor, Department of Computer Science CHRIST University Bengaluru, Karnataka- 560058	<b>Dr. Santhoshkumar</b> Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	Assistant Professor	Department of Computer Science CHRIST University Bengaluru,	Efficient Conglomerate Ranked Search over Encrypted Mobile Cloud Data through Blind Storage	Faculty
59	<b>Dr. R. Manimaran</b> Assistant Professor & Head Department of Information Technology J.J.College of Arts and Science (Autonomous) Pudukkottai - 622 422	-	Assistant Professor	Department of Information Technology JJ College of Arts and Science (Autonomous) Pudukkottai - 622 422	Road Traffic Accident Prediction Using Data Mining Classification Algorithms	Faculty



60	A.Sunathi Department of Computer Science Engineering, SASTRA Deemed To be University, Srinivasa Ramanujan Centre (SRC), Kumbakonam	Dr. F. Kurus Malai Selvi Department of Computer Science Government College for Women Kumbakonam – 612001	Assistant Professor	-	Classification and Regression Tree to predict and diagnosis the Liver disease and its subtypes	Faculty
		Dr. Santhoshkumar Assistant Professor, Department of Computer Science Alagappa University, Karaikudi				
61	Ahamed Lebbe Hanees Head of the Department of Mathematical Sciences. & Senior Lecturer Grade- I in Computer Science, Faculty of Applied Sciences, South Eastern University of Sri Lanka, Sammanthurai, SRI LANKA	Dr. Santhoshkumar Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	Assistant Professor	-	DeepQ CNN Model for Flower Classification and Disease Prediction	Faculty
62	A.Sunathi Department of Computer Science Engineering, SASTRA Deemed To be University, Srinivasa Ramanujan Centre (SRC), Kumbakonam	Dr. S. Meganathan Department of Computer Science & Engineering SRC, SASTRA University Tamil Nadu, INDIA	Assistant Professor	-	Face Mask Detection Using Various Versions Of Yolo Object Detector	Faculty
		Dr. Santhoshkumar Assistant Professor, Department of Computer Science Alagappa University, Karaikudi	Assistant Professor	-		



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Sri Raaja Rajan College of Engg. & Tech  
Amaravathipudur, Karaikudi - 630 301  
Sivagangai Dist, Tamil Nadu



# SRI RAAJA RAAJAN

COLLEGE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)

146/14B1, Amaravathi Village, Amaravathiputhur Post,  
Karaikudi - 630 301, Sivagangai Dt, Tamil Nadu

Website : [www.srirajaraajan.in](http://www.srirajaraajan.in), E-mail : [srrcet2010@gmail.com](mailto:srrcet2010@gmail.com), Ph: 04565-234230

## INTERNATIONAL CONFERENCE

### RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS AND CYBER SECURITY

International Conference on Recent Trends in Artificial Intelligence, Robotics and Cyber Security held on 11<sup>th</sup> January, 2022 at Sri Raaja Raajan College of Engineering and Technology, Amaravathiputhur, Karaikudi.

International Conference on Recent Trends in Artificial Intelligence, Robotics and Cyber Security organized by Department of Computer Science and Engineering, Sri Raaja Raajan College of Engineering and Technology. The International Conference was attended by Research scholars, Faculty members and students who included Chief Guests, HOD's Staff members and Students. The occasion was marked by Department of Computer Science and Engineering, The Principal of SRRCET Dr.AL.Mayilvahanan gave Welcome address and Mr.S.Aanjan Kumar, Assistant Professor, Department of CSE, in his inaugural address appraised the participants of the efforts taken by SRRCET in Computer Science and Engineering during the year and gave thematic presentation about the AI, Robotics and Cyber Security. Chief Guest Mrs. Mala Gopal, Founder and Director, Kural Koodal Semmozhi Foundation, Houston, Texas, USA inaugurate the conference. On Resource person address Mr.Paneer Sethapathy, Associate Director, Accenture, Houston, Texas, USA, motivates the students to involve in research in recent trends and Special Guest Mr.Adhi Gopal, Univeristy of Houston, Texas, USA, gave presentation about Artificial Intelligence and Resoure person Mr.Lena Sekar, Founder & CEO, Yagen Robotics, Chennai gave demonstration with different varieties of Robots. The person from research side Dr.S.J.Sathish Aaron Joseph, Head, Department of Computer Applications, JJ College, Pudukkottai gave presentation about recent researches in Cyber Security.

After that the session the certificates are distributed to those who are attended the International Conference. Finally Mr.S.Aanjan Kumar, Assistant Professor, Department of CSE gave vote of thanks.



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Sri Raaja Raajan College of Engg. & Tech  
Amaravathipudur, Karaikudi - 630 301  
Sivagangai Dist. Tamil Nadu





**SRI RAAJA RAAJAN**  
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AMARAVATHIPUDUR, KARAİKUDI-630 301, SIVAGANGAI DIST.  
**DEPARTMENT OF COMPUTER SCIENCE**

*Organized*  
*International Conference on*  
**RECENT TRENDS IN ARTIFICIAL INTELLIGENCE  
ROBOTICS AND CYBER SECURITY**

*Certificate*

This is to certify that Prof./Dr./Mr./Ms. Dr. R. MANIMARAN, HEAD, IS  
AP, JJ COLLEGE OF ARTS & SCIENCE Participated / Presented a paper entitled  
ROAD TRAFFIC ACCIDENT PREDICTION USING DATA MINING at the International  
Conference on **RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS AND  
CYBER SECURITY** organized by the Department of Computer Science & Engineering, SRR CET,  
Amaravathipur, Karaikudi, on 11<sup>th</sup> January, 2022.

*S. Anup Kumar*  
CONVENER

*[Signature]*  
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**DEPARTMENT OF COMPUTER SCIENCE**

*Organized*

*International Conference on*

**RECENT TRENDS IN ARTIFICIAL INTELLIGENCE  
ROBOTICS AND CYBER SECURITY**

*Certificate*

This is to certify that Prof./Dr./Mr./Ms. ARUMAI RUBAN J, RESEARCH SCHOLAR

DEPT. OF CSE, ALAGAPPA UNIVERSITY, KKD Participated / Presented a paper entitled  
A COMPARITIVE STUDY OF THE IOT DRIP IRRIGATION SYSTEM MODELS at the International

Conference on **RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS AND  
CYBER SECURITY** organized by the Department of Computer Science & Engineering, SRR CET,  
Amaravathipudur, Karaikudi, on 11<sup>th</sup> January, 2022.

*S. Anj Kumar*  
CONVENER

*[Signature]*  
PRINCIPAL

International Conference on  
RTIAIRACS





**SRI RAAJA RAAJAN**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
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AMARAVATHIPUDUR, KARAIKUDI-630 101 SIVAGANGAI DIST.  
**DEPARTMENT OF COMPUTER SCIENCE**

*Organized*

*International Conference on*

**RECENT TRENDS IN ARTIFICIAL INTELLIGENCE  
ROBOTICS AND CYBER SECURITY**

*Certificate*

This is to certify that Prof./Dr./Mr./Ms. R. UMA, RESEARCH SCHOLAR

INTELLIGENT METHOD FOR PREDICTION OF Participated / Presented a paper entitled  
ANTIDIMUNE ARTHRITIS DISEASE USING MACHINE LEARNING ALGORITHM at the International

Conference on **RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS AND  
CYBER SECURITY** organized by the Department of Computer Science & Engineering, SRACEE,

Amaravathipuram, Karaikudi, on 11<sup>th</sup> January, 2022.

*S. Anand*  
CONVENER

*[Signature]*  
PRINCIPAL

*International Conference on*  
**IT IIRACS**



**SRI RAAJA RAAJAN**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**  
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AMARAVATHIPUDUR, KARAIKUDI-630 301. SIVAGANGAI DIST.  
**DEPARTMENT OF COMPUTER SCIENCE**

*Organized*

*International Conference on*

**RECENT TRENDS IN ARTIFICIAL INTELLIGENCE  
ROBOTICS AND CYBER SECURITY**

*Certificate*

This is to certify that Prof./Dr./Mr./Ms. C. BALAKRISHNAN

..... Participated / Presented a paper entitled  
EFFICIENT CONGLOMERATE RANKED SEARCH OVER ENCRYPTED MOBILE CLOUD DATA at the International

Conference on **RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS AND  
CYBER SECURITY** organized by the Department of Computer Science & Engineering, SRRCET,

Amaravathipudur, Karaikudi, on 11<sup>th</sup> January, 2022.

*S. Anjan*  
CONVENER

*[Signature]*  
PRINCIPAL

International Conference on  
RTI AIR ACS





# **SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY**

*(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)  
Amaravathiputhur, Karaikudi - 630301*

## **INTERNATIONAL CONFERENCE**

**On**

## **RECENT TRENDS IN ARTIFICIAL INTELLIGENCE, ROBOTICS & CYBER SECURITY**

**R T I A I R A C S - 2022**

*11<sup>th</sup> January 2022*

## **SOUVENIR**



*Organized by*

**Department of Computer Science and Engineering**

## **MESSAGE**



I am glad to know that the Department of Computer Science and Engineering of Sri Raaja Raajan College of Engineering and Technology, Karaikudi, is organizing a International Conference on the title **Recent Trends in Artificial Intelligence, Robotics and Cyber Security** on 11th January 2022. I feel that this International Conference would help students to have interactions with experts in the field of Computer Science to enhance their knowledge.

My best wishes to all the staff and students who have taken efforts to make this International Conference a successful event.

**Dr.S.Subbiah, Ph.D.,  
Former Vice Chancellor,  
Alagappa University, Karaikudi.**



## **MESSAGE**



It gives me immense pleasure to be a part of this hosting team of International Conference on Recent trends in Artificial Intelligence, Robotics and Cyber Security. The conference intends to bring together scientists, engineers and practitioners from different disciplines to discuss concerns related to various computation techniques in science and technology.

I take this opportunity to welcome all the delegates of the conference. On behalf of whole RTIAIRACS - 2022 team, I would like to thank all the authors, sponsors and keynote speakers for their support and co-operation.

**Dr.AL.MAYILVAHANAN**  
**Principal**  
**SRRCET, Karaikudi**

## **MESSAGE**



I am extremely happy to know that a International Conference on the title **Recent Trends in Artificial Intelligence, Robotics and Cyber Security** is organized on 11th January 2022. I wish to congratulate the Computer Science Engineering Department for taking the effort in organizing the Conference.

I am confident that this event will help the students to update themselves on the latest happenings in their field of interest.

My best wishes for the International Conference.

**Mrs.MalaGopal  
Founder & Director  
Kural Koodal Semmozhi Foundation,  
Houston, Texas, USA**



## **MESSAGE**



I am happy to note that the Department of CSE is organizing a International Conference on **Recent Trends in Artificial Intelligence, Robotics and Cyber Security** on 11<sup>th</sup> January, 2022.

I am sure that this International conference will give an opportunity to the students of Computer Science and Engineering to interact with other students and faculty members, thereby furthering their knowledge.

I congratulate all the students and faculty members of the department in organizing this useful academic programme.

**Mr.PANEER SEETHAPATHY,  
Associate Director,  
Accenture  
Houston, Texas, USA**

## **MESSAGE**



Warm and Happy greeting to all. I am immensely happy that Department Computer Science is organizing a International Conference on 11<sup>th</sup> January, 2022 and is going to present a collection of various technical papers in the proceedings.

Under the guidance of Management, college continues to march on the way of success with confidence. Sharp, clear vision and precise decision making powers of management has benefited college to say competitive.

*“Success is sweet. But the secret behind the success is sweat”*. So I take this opportunity to congratulate the HoD’s, faculties and Students for their efforts to make this Conference a grand success.

**Mr.ADHIGOPAL,  
Department of CSE,  
University of Houston,  
Texas, USA**



## **MESSAGE**



It gives me immense pleasure that Sri Raaja Raajan College of Engineering is organizing an International Conference on Recent Trends in Artificial Intelligence, Robotics and Cyber Security (RTIAIRACS) on 11<sup>th</sup> January, 2022. It provides an opportunity for meeting of International Researchers, Engineers, Scientists and specialists in the various research and development fields of Engineering and Technology.

The conference offers a premise for global experts to gather and interact intensively on the topics of Computer Science and Information Technology. I hope eminent speakers will cover the theme from different perspectives. I am privileged to say that this conference will definitely offer suitable solutions to the global issues. Eventually I express my special thanks and appreciation to all. I wish (RTIAIRACS 2023) all the best for its success.

**Mr.LENASEKAR,  
Founder & CEO,  
YAGEN ROBOTICS,  
Chennai.**

## **MESSAGE**



I am pleased to welcome you all for the International Conference on Recent trends in Artificial Intelligence, Robotics and Cyber Security by Sri Raaja Raajan College of Engineering and Technology, Karaikudi is a camouflage wealth of knowledge, innovation and technology that lies within, itself is a niche of opportunities to all aspiring engineers and researchers.

The events in the conference are targeted towards researchers, practitioners, professionals, educators and students to share their experience, innovative ideas, issues, recent trends and future directions in field of Engineering and Science and Technology.

In a nutshell, the conference promises to transcend to a new and unprecedented level of excellence. It is thus the zenith where technology and skill meets opportunities and guidance. It is a milestone that one would not dare to miss. I wish RTIAIRACS 2023 a grand success.

**Dr. SJ. SATHISH AARON JOSEPH,  
HoD of Computer Application,  
JJ College, Pudukkottai**

## **MESSAGE**



My warm wishes and greetings to all of you,

The International Conference was conceived about a month ago. We are pleased to note that the response was highly encouraging from different institutions. I thank each of the participants personally for their sincere response.

I hope that the conference will help all the students to exchange their technical views and information in the field of Engineering. Kindly utilize this event to enhance the knowledge. I wish you all the best in all your endeavors in future.

I convey my sincere thanks to Our Advisor, **“Dr.S.Subbiah.,** Principal **Dr.AL.MAYILVAHANAN, M.E.,Ph.D.,** for extended support to organize this symposium.

I whole heartedly thank all the staff members and students of Computer Science & Engineering for their cooperation and support for making this symposium as a Special event.

***“Inspiration is one thing & you can’t control it but hard work is what keeps the ship moving. Good luck means work hard. Keep up the good work”***

**Mr. S. AANJAN KUMAR, M.E.,**  
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## **PREDICTION OF STUDENT'S ACADEMIC PERFORMANCE BY HYBRIDIZED RANDOM FOREST AND LOGISTIC REGRESSION ALGORITHM**

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### **ABSTRACT**

The vital aim of this research is to predict the student's academic performance. Predicting student's academic performance helps the teachers or faculty members to guide students and pay necessary attention on their studies according to their performance. Also, this research helps the students to improve more on their academic performance and they can take necessary steps to improve their performance in lacking area. Student's academic dataset analysis, feature extraction, classification and prediction are performed with the help of python and machine learning libraries. Most appropriate two machine learning algorithms are hybridized to create a new model to predict the student's academic performance. Attained results proved that the new proposed hybrid model improved the accuracy than existing machine learning mechanism.

***Keywords: Students Academic performance, Machine Learning, Hybrid Model, Python, Prediction***

# FACE MASK DETECTION USING VARIOUS VERSIONS OF YOLO OBJECT DETECTOR

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## Abstract

Object detection algorithms are often used to detect large numbers of objects in a real-time environment. YOLO (You Only Look Once) is one of the algorithms used to find objects. This algorithm has a high range of MAP (Mean Average Precision) score than compared to other detectors. The Accuracy rate and the processing FPS of YOLO Detectors are also high. A Custom dataset has built by collecting a large number of images from various sources and then images were annotated before training the detector on the dataset. The COVID pandemic has led to a global health crisis. Coronavirus spreads mainly through nasal discharge when an infected person coughs or sneezes. So, every individual needs to take precautionary measures such as wearing a face mask. Still, some people do not follow the guidelines and go to public places without wearing a face mask. This work uses YOLO detector on the custom dataset and built a model that is used for detecting whether a person is wearing a face mask or not in a real-time environment. The proposed model is trained on a large number of images (with and without a mask). The dataset is initially categorized into three sets namely Testing Dataset, Training Dataset and Validation Dataset. The model is trained with the images in the Training Dataset and then its performance is evaluated. The training Dataset nearly consists of 700 images with and without a mask. The predictions made by the trained model are tested against the confidence score and the weaker predictions are suppressed. This model can be used to detect individuals who are not wearing a face mask in a real-time environment with an alert system using various versions of YOLO algorithms and also its performance analysis on mask detection.

*Keywords—Deep Learning, Yolo Detector, Computer Vision, Darknet.*

## ENHANCED DATA PRIVACY USING VERTICAL FRAGMENTATION AND DATA ANONYMIZATION TECHNIQUES

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### ABSTRACT

The use of online banking has significantly increased because of the rapid progress of electronic commerce technologies. Virtual and physical cards are used in online banking to make purchases of goods and services, with virtual cards being used for online transactions and actual cards being used for offline transactions. Cashless shopping is made possible through net banking. It will be the most practical way to do internet business, pay bills, etc. which is quickly becoming the most common method of payment for both regular and online purchases. Attackers simply require a small amount of information to conduct fraudulent transactions in the online payment mode (secure code, card number, expiration date etc.). Most transactions in this buying technique will take place over the mobile phone or the Internet. A fraudster only needs to be aware of the card information to make these types of purchases fraudulently. Much of the time, the legitimate cardholder is unaware that his/her card information has been viewed or stolen. Consequently, there are also rising dangers of fraud transactions using banking information. Fraudulent transactions will be identified in the current cyber security system after the transaction has been completed. It is challenging to identify fraud because the issuing agencies will not allow losses. We can overcome this by using a vertical level server architecture to divide the intermediary gateway and boost security. Transaction details are divided and kept in primary and secondary servers as sensitive attributes. To overcome the pitfalls of the conventional cryptography techniques, data suppression scheme that transforms string and number characters into special symbols should be designed.



# **Classification and Regression Tree to predict and diagnosis the Liver disease and its Subtypes**

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## **Abstract:**

Data mining is a method that makes it easier for us to extract information from a vast collection of data. One of the most important components of automated disease diagnosis and disease prediction is medical data mining. The liver is one of the major organs in the human body. In many countries, liver illnesses are one of the most dangerous diseases due to their uncontrolled growth. According to the WHO and the British Liver Trust, liver disease is the tenth most prevalent cause of mortality worldwide and the fifth most common cause of death in India. Clustering and classification are two data mining approaches that help us forecast liver disorders. The Database Horizontal Reduction [DB-H] algorithm effectively removes incomplete data and symbolic properties. This minimizes the time that the data mining algorithm needs to run. On the liver dataset, Expectation Maximization [Gaussian EM] is utilised to cluster by locating the statistical model's maximum likelihood parameters. The values in the clustered dataset determine the classification method performance. This study employs the CART classification algorithm to predict the types of liver disease.

**Keywords:** DB-H Reduction, EM algorithm, CART decision tree

## **BANKING WITH DIGITAL CURRENCIES USING BLOCKCHAIN TECHNOLOGY**

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### **ABSTRACT**

In order to execute electronic payments, banking institutions have become the practically exclusive source of trust for online commerce. Online payments might be made directly from one party to another without going through a banking institution with a peer-to-peer version of electronic currency. While signatures help in part, the major advantages are lost if a reliable third party is still needed to avoid duplicate spending. Bit Coin based banking system can be implemented leveraging the technologies of block chains to create hash functions. Bit coin is a crypto currency, which is not supported by the government or central bank of any nation. It can be traded for goods or services with vendors who the use of bit coins payment. These bit coins are the blocks of secure data. This data is switched from one person to person and verifying the transaction, i.e., spending the money that requires high computing power to safely verify the individual transactions. The P2P network monitors and verifies the moving of bit coins between users. As per to cryptographic implementation bit coin is more secure than other currencies and it is impossible to do fake transactions. In a Bit coin transaction, block chain will create an interconnection between all users connected to network also each time when entering a transaction to the network after validating it will broadcast to all the other users also network will have a copy of every transaction. The network will group transaction data into blocks and broadcast them throughout the network rather than preserving any transactions in the block chain. Every block in this chain will link to the one before it, which is known as the genesis block. Block chain systems work with peer-to-peer networks and uses a consensus algorithm that's why the missing possibility of data modification.

Index Terms – Financial sector, Bit-coin transaction, Block chain, P2P network, Crypto currency

# **A review of Machine Learning for Big data processing**

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## **Abstract**

There is no doubt that big data are now rapidly expanding in all science and engineering domains. While the potential of these massive data is undoubtedly significant, fully making sense of them requires new ways of thinking and novel learning techniques to address the various challenges. In this paper, we present a literature survey of the latest advances in researches on machine learning for big data processing. First, we review the machine learning techniques and highlight some promising learning methods in recent studies, such as representation learning, deep learning, distributed and parallel learning, transfer learning, active learning, and kernel-based learning. Next, we focus on the analysis and discussions about the challenges and possible solutions of machine learning for big data. Following that, we investigate the close connections of machine learning with signal processing techniques for big data processing. Finally, we outline several open issues and research trends.

***Keywords:*** *Machine learning, Big data, Data mining, Signal processing techniques*



***An Automatic Speech Recognition System for Tamil Sign Language Synthesis  
using the Mel Frequency Cepstral Co efficient and Hidden Markov Model***

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***Abstract:*** Sign language is a root level communication language for deaf people or those who are hearing impaired, so they found difficulty to communicate with the outer world. Hearing impaired people also had less reading skills, than the average educated person lack basic communication with others. To reduce this communication gap and made them available more information, an Automatic Speech Recognition (ASR) system is proposed. This proposed system synthesizes signs from sign text to Tamil Sign Language. Mel Frequency Cepstral Co efficient (MFCC) and Hidden Markov Model is used to develop the ASR. The developed system provided better promising results for Tamil Sign Language Synthesis.

**Keywords:** Sign Language; Synthesis; Mel Frequency; Hidden Markov Model; Speech Recognition

# Segmentation of Tumor in MRI using FCM Algorithm

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## ***Abstract***

The paper focuses on how a brain image is being segmented to diagnose the brain tumor by using spatial fuzzy clustering algorithm. *The* process of segmentation plays a vital role in medical application because segmentation is the first step in image analysis. In order to identify any variation, the segmentation in medical images should be clear. Nowadays, segmentation of brain tumor is a difficult task in medical images. The segmentation process may cause error while diagnosing MR images due to the artifacts and noises exist in it. This may leads to misclassify the normal tissue as abnormal tissue. The proposed method is to segment normal tissues such as White Matter, Gray Matter, Cerebrospinal fluid and abnormal tissue like tumor part from MR images automatically. This paper presents a fuzzy -means (FCM) clustering algorithms for the segmentation of brain MR images. In this approach a method trade-off weighted fuzzy factor is used to segment the tumor region from the MRI images is used to increase the performance of segmentation results. Finally experimental results of the proposed framework gives better efficiency and provides higher accuracy than other compared existing approaches.

*Keyword: Brain Segmentation, Fuzzy, Weighting factor, Tumor tissues, MRI images*

# DeepQ CNN Model for Flower Classification and Disease Prediction

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## Abstract

The proliferation of rare plant species benefits fields such as botany, agriculture, commerce, and the pharmaceutical industry. Its variability makes its classification difficult. Most species are quite similar. One of the most difficult processes today is flower identification. Much research remains to be done in flower-based image classification, despite the availability of computational and image classification approaches. The use of advanced classification techniques is essential, especially in the classification and identification of flower diseases.

It has provided a hybrid method to exploit the CNN method. CNN is used for image recognition and classification with multi-label classification. It attempts to explore a single methodology for characterization as well as suitability of representative process diagrams as well as completely different taxonomy strategies to efficiently classify many flower species. . The deep network classification model is trained to mechanically extract features from flower images. It is simple structure, few training parameters and achieves honest recognition effect. The objectives of the proposed work are

1. Research, analysis, classification of flowers and related diseases.
2. Deep CNN Model analysis on preprocessing, machine learning and best for flower image classification
3. Develop an innovative intelligent model that uses machine learning and deep CNN models for flower classification and disease identification



# Efficient Conglomerate Ranked Search over Encrypted Mobile Cloud

## Data through Blind Storage

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A fundamental application is to outsource the mobile data to external cloud servers for scalable data storage. However, need to be encrypted due to the privacy and confidentiality concerns of their owner. This results in the distinguished difficulties on the accurate search over the encrypted mobile cloud data. We develop the searchable encryption for multi-keyword ranked search over the storage data. We utilize the relevance score and k-nearest neighbor techniques to develop an efficient multi-keyword search scheme that can return the ranked search results based on the accuracy.

We aim to achieve an efficient system where any authorized user can perform a search on a remote database with multiple keywords, without revealing neither the keywords he searches for, nor the contents of the documents he retrieves. Our proposed system differs from the previous works which assume that only the data owner queries the database. In contrast to previous works, our proposal facilitate that a group of users can query the database provided that they possess trapdoors for search terms that authorize the users to include them in their queries. Moreover, our proposed system is able to perform multiple keyword search in a single query and ranks the results so the user can retrieve only the top matches. Information search and document retrieval from a remote database (e.g. cloud server) requires submitting the search terms to the database holder. However, the search terms may contain sensitive information that must be kept secret from the database holder.

## **Empowering AI in Future Wireless Networks**

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**Abstract---** In Recent years have seen swift deployment of IoT networks and AI which can be mostly attributed to the swelling communication of wireless systems. Big data analysis, pervasive computing, and eventually artificial intelligence (AI) is usually defined as the science of creation computers do things that require intelligence when done by humans and also generate a new world presented by data-driven AI. In this situation, an innovative paradigm of integration AI and wireless communications, called Wireless AI that forces AI frontiers to the network edge, is widely regarded as a key enabler for coming intelligent network evolution. To this end, we present a complete survey of the latest studies in wireless AI from the data-driven viewpoint. Exactly, we first recommend a novel Wireless AI architecture that covers five key data-driven AI themes in wireless networks, including AI Sensing, AI Network Device, AI Access and AI User Device. Then, for each data-driven AI concept, we present an outline on the use of AI approaches to solve the emerging data-related problems and show in what way AI can empower wireless network functionalities. To finish, research challenges are discussed to outgrowth further research in this capable area.

**Keywords—**Artificial Intelligence;Wireless technology; Wireless Communication;

# DNA Cryptography for Secure Data Communication Processing System

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**Abstract-** Data security is guaranteed by encrypting plain text with cryptographic algorithms and transforming it into an unreadable format. To provide secure communication over a network, cryptographic techniques are used to encrypt messages. It is critical for organizations and individuals to safeguard their information from attackers as well as hackers in order to ensure data privacy, integrity, and confidentiality. DNA Computing is a new technique for securing data that makes use of the biological structure of DNA. Data can be stored and transmitted using DNA. The idea of using DNA computing in cryptography has been recognized as a possible technology that could usher in a new era of unbreakable algorithms. The primary goal of this paper is to provide data with a high level of security. The use of the four nucleotides in sequence is the most important aspect of the DNA-based data masking technique. These are the nucleotides A, C, G, and T. A DNA sequence can be formed by any combination of these nucleotides. The first step is to convert clear language to DNA code using predefined values. Then, using the Least Significant Bit (LSB) technique, encrypted text can be hidden within the image. The receiver will use the reverse operation for decryption to obtain the cipher text and plaintext. The experimental findings indicate that the proposed program gives a high level of security when sharing data.

# Performance Measures to analyse feature Selection algorithms for Chronic Kidney Disease Diagnosis

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## Abstract

Chronic kidney disease (CKD) is one of the most dangerous and deadly diseases in the world. The main causes of kidney failure are possible in two categories namely acute and chronic. Diabetes and hypertension are the two main causes of CKD. CKD has four stages. Predicting CKD stage 1 and early stage 2 may be possible to prolong life or reverse the disease. The proposed CBHFSC-CKD technique is designed to diagnose and classify CKD. Performance measurements are needed to measure algorithm performance. Previous work used existing pre-processing and modified feature selection techniques, and a confusion matrix technique was used to predict performance and accuracy. CKD stage classification requires more precision to find the stages. This requires the use of additional performance measurements to find the consistency and accuracy of the proposed techniques. This work aims to include additional performance metrics such as SOTA and BERT techniques.

**Key words:** CKD, SOTA, BERT, Performance Measure, Accuracy rate.



# PERFORMANCE METRICS FOR DEEP LEARNING BASED PREDICTIVE MODEL FOR DIABETES MELLITUS AND ASSOCIATED DISEASES

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## ABSTRACT

Presently, process analytics extracts the knowledge from the past data to explore, monitor, and improve the processes. The recently developed deep learning (DL) models find it helpful to analyse medical data and make decisions. Among various diseases, type 2 diabetes mellitus (T2DM) becomes a widespread disease over the globe and it leads to severe outcomes. Chronic kidney disease (CKD) and coronary heart disease (CHD) are the major illness occurred in people with T2DM. Since the earlier prediction of the risk factors related to CKD and CHD on T2DM persons is necessary, this study focuses on the design of intelligent feature selection with deep learning based risk factor prediction (IFS-DLRFP) model. The proposed IFS-DLRFP technique intends to determine the early warning to the patients with T2DM to develop CKD or CHD. In addition, the IFS-DLRFP technique includes the design of fruit fly optimization algorithm (FFOA) based feature selection technique to choose an optimal set of features. Moreover, firefly optimization with gated recurrent unit (FF-GRU) based classification technique is derived to allocate appropriate class labels to the input data. The FF-GRU technique performs the hyperparameter tuning process using FF technique. In order to ensure the better performance of the IFS-DLRFP technique, a wide range of simulations take place on benchmark datasets and the simulation outcomes reported the supremacy of the IFS-DLRFP approach over the recent techniques. The proposed work is aimed to develop performance measures and metrics to evaluate the proposed techniques with respect to its accuracy rate.

## **Study on Artificial Intelligence Applications in Games**

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**Abstract---** Through the in-depth growth of intelligent technology, game AI has become the technical core of improving the playability of a game and the main selling point of game elevation, thickening the game experience monarchy. Contemporary computer games realize the realism of games by participating graphics, physics then artificial intelligence. It is difficult to define the meaning of realistic game experience, but commonly speaking, it usually refers to the immersion of the game and the intelligence of non-player characters in the game. By way of the methodological core of improving game playability and the selling point of many commercial games, game artificial intelligence gives players a way to interact with non-player characters in the game, and encourages the monarchy of game experience to a advanced level. This work scrutinizes the past and present-day condition of artificial intelligence in game development, and puts forward the possible variations and impacts of artificial intelligence technology based on machine learning on game development in the forthcoming.

**Keywords**—Artificial Intelligence;ArtificialApplications;Games;Machine Learning;

## **Survey on Human System Interaction Using AI**

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**Abstract---** Artificial Intelligence is swaying almost all areas of human life. Even though these AI-based systems frequently provide state-of-the-art presentation, humans still hesitate to develop, position, and use AI systems. The main reason for this is the lack of belief in AI systems caused by the deficiency of transparency of existing AI systems. As a resolution, “Truthful AI” research area merged with the goal of defining strategies and contexts for improving user confidence in AI systems, allowing humans to use them without fear. While belief in AI is an active area of research, very little work exists where the focus is to build human trust to improve the interactions between human and AI systems. In this Work, we provide a summarizing survey on concepts of truthful AI. Further, we present truthful AI development guidelines for improving the user belief to enhance the communications between AI systems and humans, that happen during the AI system life cycle.

**Keywords**—Artificial Intelligence;Truthful;Interaction;AI Life Cycle;

## **Survey on Service Robotics**

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**Abstract---** In these surveys, the research topics in manufacturing robotics and transportable robotics and then expands on new trends in robotics research that focus more on the communication and collaboration between human and robot. The new-fangled trends in robotics research have been designated facility robotics because of their general goal of getting robots quicker to human social needs, and this article surveys research on service robotics such as medical robotics, robotics in rehabilitation, underwater robotics, field robotics, robotics in construction and humanoid robotics. The aim of this article is to provide an overview of the evolution of research topics in robotics from classical motion control for industrial robots to modern intelligent controller techniques and common learning paradigms.

**Keywords**—Robotics;medical robotics; robotics in rehabilitation; underwater robotics; field robotics; robotics in construction.