



Saranathan College of Engineering

(Affiliated to Anna University Chennai)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING E magazine 9.0 COMSCEWAVE 2020

About us

The Department of Computer Science and Engineering was established in the year 1998 with the intake of 40 students initially. It was increased to 60 in 2000 and 120 in the year 2011. This program is affiliated to Anna University, Chennai. This immense growth is due to the efficient working of staff members and students. The department has the pride in showcasing its 100% of admission. With relentless efforts, the department has accomplished Accreditations by the Institution of Engineers (IEI) in the year 2015 and National Board of Accreditation (NBA) in the year 2018.

The department library is strategically placed to access to all the students. It spreads over an area of 100 sq. ft. It acts as a storehouse of knowledge with over 604 books including books with various domains in Computer Science and Engineering. Reference books are added to the Library every year. The department with its cohesive team of faculty members offers a sound program at the UG level. It shapes the students to keep up with the growing demands and changing trends of the software industry and research laboratories.

Apart from curriculum, the active participation of students in inter and intra college technical contests are being encouraged by the department to develop their interpersonal skills and the students have won many Best Project awards, Mobile App, Web Applications and Coder awards. Students are also actively participating in Infosys Foundation Programs(FP), TCS campus commune, TATA crucible project competition, and CSI Project Contests, etc.

VISION OF THE INSTITUTION

Impart an inclusive engineering education that beyond being a facilitator for a career and rudimentary skills, equips the students to offer ethically & environmentally conscious solutions to societal issues.

MISSION OF THE INSTITUTION

Develop the Institution into a Model Self Financing College of Engineering and Technology. Deliver Professional Training to our students with state-of-the art Laboratories and convert them into Technocrats of international repute.

- 1. Create a nurturing, holistic environment of engineering education to facilitate every student realize their full potential.
- 2. Strive to make the students strong in basic concepts armed with appropriate skills to enhance one's ability to apply the knowledge and provide solutions to real time issues.
- 3. Maintain an ambience that facilitates the students to strengthen their ethical value systems.
- 4. Actively promote R&D and institute-industry interaction.

VISION OF THE DEPARTMENT

To evolve as a centre of academic excellence and advanced research in Computer Science and Engineering discipline.

MISSION OF THE DEPARTMENT

- 1. To inculcate in students a profound understanding of fundamentals related to discipline.
- 2. To inculcate skills, attitudes and their applications in solving real world problems with an inclination towards societal issues and research.
- 3. To promote research in the emerging areas of computer science and technology

PROGRAMME EDUCATIONAL OBJECTIVE

PEO1: Acquire strong foundation in the mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyse engineering problems.

PEO2. Develop the ability to analyse the requirements of the software, understand the technical specifications, design and provide novel engineering solutions and efficient software/hardware designs.

PEO3: Have exposure to emerging cutting edge technologies, adequate training & opportunities to work as teams on multidisciplinary projects with effective communication skills and leadership qualities.

PEO4: Have awareness on the life-long learning and prepare them for research development and consultancy.

PEO5: Have a successful career and work with values & social concern bridging the digital divide and meet the requirements of Indian and multinational companies

From the desk of the Principal



It is our effort to make SCE of Computer Science a top educational institution that can create IT professionals, who blend effectively, technological skills with management perspectives and to impart an inherent discipline that will help them face challenges in the future. Consequently the true education should deepen our insight, widen our horizon and create a meaningful outlook. Equally the students are fortunate enough to have born in a free nation, with all the facilities to shape their career in such a way, that they should be part of a good and healthy society with progressive attitude towards divinity.

> Dr. D.Valavan Principal

From the desk of HoD



It gives me immense pleasure to lead the department of CSE. The department has well qualified and eminent faculty. The main objective of department is to develop the students both personally and professionally to achieve successful career in Industry, Research and Academics. Consequently, great advances have taken place in the field of computer science and engineering, bringing together the understanding of the scientific and technological foundations of computing, the concepts of software and hardware as well as those of communication technologies. The Department of Computer Science and Engineering endeavors to contribute to these advances through teaching and research in this field. The E magazine attempts to present the Department and its activities for general information to all concerned.

Dr. S.A.Sahaaya Arul Mary HoD/CSE

Editor's Message

It gives us a great contentment to bring it to you the department magazine of CSE. This magazine is a platform to exhibit the innovative ideas of teachers and students. *COMSCEWAVE* presents the achievements of students and the contribution of staffs. We would like to extend our heartfelt gratitude to all those who have contributed to make this a success. We are thankful to all the authors who have sent their articles. We truly hope that the following pages will keep you attached to this magazine.

K.Mohanappriya AP/CSE

Student Representative : Vishnu C Sanjay S P

Industry Interaction



Students Certification Programs

Name of Certificate programs offered	Number of students enrolled in the year
MTA – Microsoft Technology Associate Database Fundamentals	50
Python Fundamentals	
Oracle Academy JAVA Programming Database Programming	97
InfyTQ (Self Learning) Python Programming Database Fundementals	120
OOPS & DS Algorithms	120
QIC Spoken Tutorial (IIT Bombay)	
Python C and C++	113
NPTEL Course	113













Technical seminar on User Experience Design

The Department of CSE has organized a Technical seminar on "User Experience Design" on 07th Sep 2019. Mr.Aravind Mohan, Senior User Experience Architect, Infosys Ltd Chennai handled the session. The session started with the introduction of User Experience Design and design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability and function.

Crevalto - A Product Demonstration

Mr. Aditya Sambamoorthy, Founder and Director at "SteerClear", a startup located in Chennai, gave a thought-provoking session to encourage "Open Innovation" in his platform (crevalto - creating value together), which is now in the prototyping phase. He presented five guiding principles such as Inspire participation, Select the best, connect creative minds, Share Results and Continue development. This presentation was made to the third-year students of all departments on 06.02.2020 at JS Block - Civil Seminar Hall from 10 a.m to 3 p.m. The guiding principles aim to encourage open innovation, where companies involved (meaning registered with Crevalto) will initiate the academic community (consisting of students and teachers) to brainstorm innovative ideas to create effective solutions to problems posted in Crevalto. These strategies could be in product development, design, coding or any value creation activity for branding. This initiative will also improve the handson learning of the student community by connecting all engineering students who will post their problems and solutions for business emergence.



WEBINAR SERIES (DURING COVID 19 LOCKDOWN PERIOD)

International Webinar on E-PAYMENTS: A View of Authorisation, Clearing and Settlement

Mr.Sadheesh Radhakrishnan, Payment cards SME, Worldspay/FIS,London,UK.

The Department of CSE conducted an International Webinar on 13.07.2020 between 6.00 p.m and 7.30 p.m. The webinar was convened by Dr.S.A.Sahaaya Arul Mary, HoD/CSE and coordinated by Dr.S.Mohana and Dr.R.Senthamil Selvi.

Mr.Sadheesh Radhakrishnan, Payment Cards SME,WorldPay/Fis,London-UK delivered a talk titled "e-payments: A view of Authorization, Clearing and Settlement." During the session he explained how an e-payment gets authorized, cleared and settled to a merchant. He also explained each step of the process involving an exchange of transaction data and money that must be settled and balanced. The session also covered various types of e-payments and how they differ in their business terms. He also covered the changes involved behind every card transaction that we are make in our everyday life.

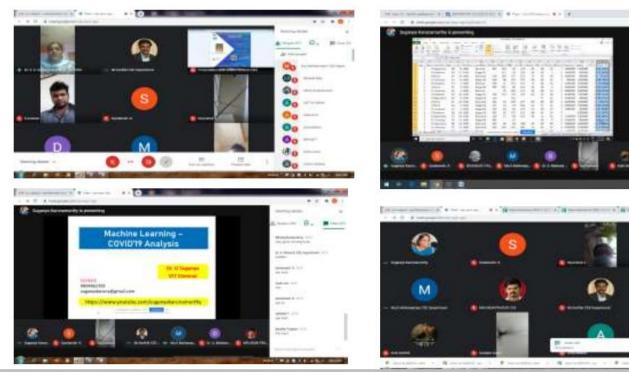
128 participants from various colleges attended the webinar and gave a positive feedback. Some participants raised their queries in the QA session at the end of the lecture. These doubts were cleared by Mr Sadheesh. Earlier Dr.S.A.Sahaaya Arul Mary welcomed the gathering and Dr.R.Senthamil Selvi concluded the meeting with a vote of thanks.



International webinar *On* "Covid'19 Analysis using Machine Learning"

The Department of CSE organised an International Webinar on 14.07.2020 between 10.00 AM and 11.00 AM. The webinar was convened by Dr.S.A.Sahaaya Arul Mary, HoD/CSE and coordinated by Mr.P.B ArunPrasad, Mr.R.Karthik and Ms.K.Mohanappriya.

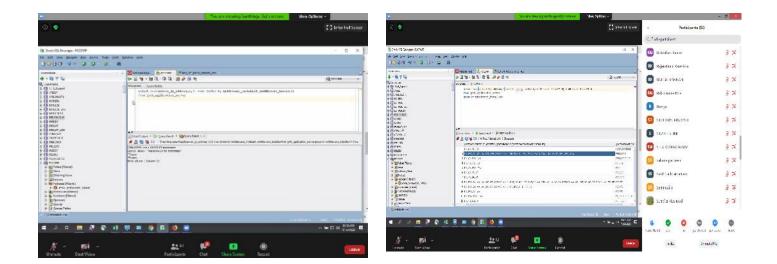
Dr. G. Suganya, Associate Professor, Department of Computer Science and Engineering, VIT University, Chennai and Assistant Director – S/W Development Cell presented a webinar session on "COVID'19 - Analysis using Machine Learning" to the webinar participants. The participants were students, faculty members, research scholars from colleges from different states in India. Totally 101 members have participated in this webinar and which in itself made this event a grand success. The main objective of this webinar was to impart in all participants the basics of machine learning concepts and provide hands-on experience in using covid '19 datasets thus providing them with an opportunity to enhance their relevant skills and become strong in this technology. The Session started with the Introduction of Machine learning and then on to a comparison between ML & Traditional programming. She went on into explaining the comparison between ML, DL & AI. She also covered about the packages available in python and taught how to explore in Jupyter Notebook. Finally she took the participants on a virtual walk through the analysis using ML methods and covid'19 dataset. Her clarifications of the various doubts raised by the participants made the session more interactive. She expressed her thanks to the management, Principal Sir, HoD/CSE and faculty members for providing her this opportunity through this webinar to be among all these participants from various Institutions.



Technical Webinar on "Dimensification of Data using DBMS

To help the students and faculty enhance their knowledge about Database Management System the Department of Computer Science and Engineering at Saranathan College of Engineering, Trichy organized on 14th July 2020, Tuesday between 10.00 am and 11.00 am a technical webinar titled **"Dimensification of Data using DBMS"**. Mr. P. Santhiyagu Antony Raj, Principal Consultant, Financial Oracle Services, Bengaluru presented the session to students, faculty members, research scholars from colleges from different states in India.

He demonstrated various Oracle developer tools and developed the database for a simple application. He also reinforced to the participants the importance of making use of the available free oracle tools. **110** participants participated in the event. The doubt clearing session at the end of the lecture was interactive and lively. Feedback and suggestions were collected from participants through Google Form.

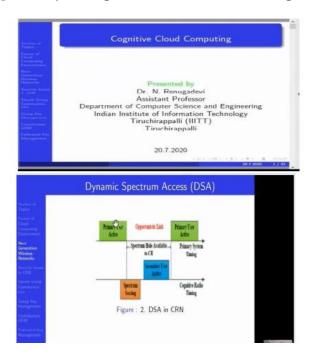


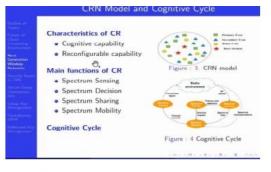
Webinar on "Cognitive Cloud Computing

66

The Department of CSE organized a Webinar on 20.07.2020 between 11.00 AM and 1.00 PM. The webinar was convened by Dr.S.A.Sahaaya Arul Mary, HoD/CSE and coordinated by Ms.V.Punitha, Dr.N.Kavitha and Ms.J.SathiaParkavi.

Dr. N. Renugadevi, Assistant Professor, Indian Institute of Information Technology, Trichy, presented a webinar session on **"Cognitive Cloud Computing"** to the webinar participants. The participants were students, faculty members, research scholars from colleges from different states in India. Totally 85 members have participated in this webinar and which in itself made this event a grand success. The main objective of this webinar was to impart in all participants the basics of cognitive cloud computing concepts and its field of application through various examples thus providing them with an opportunity to enhance their relevant skills and become strong in this technology. The Session started with the Introduction of Cognitive Cloud Computing and then explained how it has brought the power of next generation wireless networks to enterprises across the globe. She also covered about the Cryptographic Key Exchange and Encryption algorithms. Finally she took the participants on a virtual walk through the application areas of Cognitive Cloud Computing. Her clarifications of the various doubts raised by the participants made the session more interactive. She expressed her thanks to the Management, Principal Sir, HoD/CSE and faculty members for providing her this opportunity through this webinar to be among all these participants from various Institutions.





Dr. Syed Shahul Hameed

In Distributed GKM all the members are sharing their keys, but the centralized server has to combined all their keys and has to find a unique key for all members...In that case again the third party security issues comes

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Dr. Syed Shahul Hameed

To get a high security in distributed GKM, shall we use the Blockchain concept?

Mahesh Kotha Teedback link mam

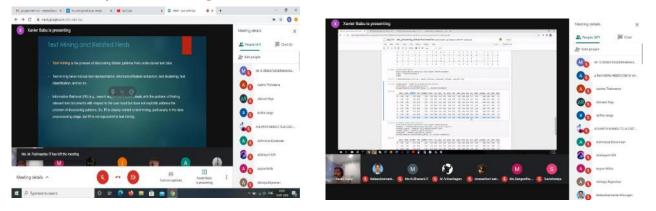
Dr. S. A. Sahaaya Arul Mary

We will post feedback link once the session is over..i.e. within 5 min

Title of the webinar	INTRODUCTION TO TEXT MINING
Resource Person details	Mr.Xavier Babu, M.E.,M.B.A, (Ph.D) Senior Director in a cloud-based Digital Marketing Technology at Publicis Groupe, Boston, MA, US 20+ years of experience in I.T. industry
Date of webinar	16-July-2020
Duration	1 hour (4 - 5 pm IST)
No. of participants	87 (24 external participants +63 internal paticipants)
Medium of webinar	Online through Google meet

The resource person was introduced to the participants. The webinar started with the introductory topic of what is mining and terminologies used. Every day, we generate huge amounts of text online, creating vast quantities of data about what is happening in the world and what people think. All of this text data act as an invaluable resource that can be mined in order to generate meaningful business insights for analysts and organizations.

But analysing all of this content isn't easy, since converting text produced by people into structured information to analyse with a machine is a complex task. In recent years though, Natural Language Processing and Text Mining has become a lot more accessible to data scientists, analysts, and developers alike.



Webinar On Unveiling Unstructured Data

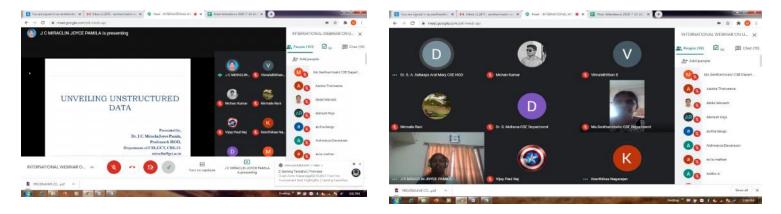
Dr.J.C.Miraclin Joyce Pamila, Professor & Head /CSE, Government college of Technology,Coimbatore.

The Department of CSE conducted an International Webinar on 15.07.2020 between 3:00 p.m and 4:30 p.m. The webinar was convened by Dr.S.A.Sahaaya Arul Mary, HoD/CSE and coordinated by Dr.S.Mohana and Dr.R.Senthamil Selvi.

Dr.J.C.Miraclin Joyce Pamila, Professor & Head /CSE, Government college of Technology, Coimbatore, delivered a talk titled "Unveiling Unstructured Data."

During the session she explained what unstructured data is and how to handle unstructured data which is coming from various kinds of external resources. She also explained the challenges that are faced when one deals with unstructured data in various domains. The session also covered usage of Natural Language tool kit for Natural language processing. She also explained NLTK platform for building python programs to work with human language data.

138 participants from various colleges attended the webinar and gave a positive feedback. Some participants raised their queries in the QA session at the end of the lecture. These doubts were cleared by Dr. J.C.Miraclin Joyce Pamila. Earlier Dr.S.A.Sahaaya Arul Mary welcomed the gathering and Dr.R.Senthamil Selvi concluded the meeting with a vote of thanks.





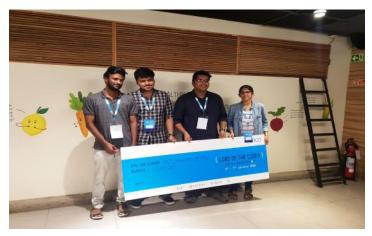




Students Achievements

✓ Rohit Raj, Thayalan GR, Immanuel Irwin and R Vatsala participated in a 24 hr Hackathon, organized by "Ramco systems, Chennai" on 4th and 5th of January 2020. We won the "Special Jury Choice Award with a cash prize of □10,000", for out of box thinking and creative solutions to seemingly impossible problems we were challenged to solve.





S P Sanjay of II CSE B has Successfully completed and receiving a passing grade in Introduction to Cloud issued by Cognitive Class



C.Vishnu of II CSE B has Participated Inter collegiate hackathon 2020 conducted by INFOSYS



			1			
S.NO	Student	Event	From date	To date	Organized	Conducted at
	Name	Name			by	(college name /
					(dept name /	location)
					org. name)	
1	V.	Technical	21/2/2020	23/2/2020	National	SASTRA Deemed
	Sudharsana	Event –			Techno	Univeristy.Thanjavur
		Reverse			Management	
		Engineering			Fest	
2	Sarika K	Technical	21/2/2020	23/2/2020	National	SASTRA Deemed
		Event –			Techno	Univeristy.Thanjavur
		Reverse			Management	
		Engineering			Fest	
3	Srilekha T	Technical	21/2/2020	23/2/2020	National	SASTRA Deemed
		Event –			Techno	Univeristy.Thanjavur
		Reverse			Management	
		Engineering			Fest	
4	Vaishanavi	Technical	21/2/2020	23/2/2020	National	SASTRA Deemed
	М	Event –			Techno	Univeristy.Thanjavur
		Reverse			Management	
		Engineering			Fest	
5	T.Sujitha	Esperanza'20	5/3/2020	5/3/2020	Dept of	SRM TRP
		- Technical			Computer	Engineering College
		Events			Science and	.Trichy
					Engineering	

Students Participation in Technical Events

6	Preetha G	PRAYANTA	8/2/2020	8/2/2020	Dept of	Anna University
		Technical			Computer	,MIT Campus
		Events			Technology,	Chennai

Workshop Attended

S.NO	Student Name	Event Name	From date	To date	Organized by (dept name / org. name)	Conducted at (college name / location)
1	Harish	Ethical Hacking Workshop	19/10/2019	20/10/2019	Workshop series at NIT Trichy	NIT Trichy
2		Machine Learning with AI workshop	1-Dec-19	13/01/2019	TechoByte	IIT Madras
3	Preetha G	Android App Development	21/9/2019	22/9/2019	IIT Madras	IIT Madras





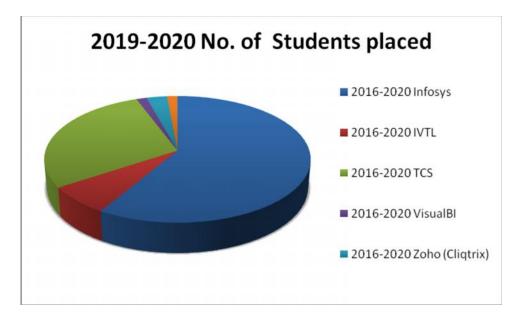








Placement Details



	2019-2020	
Students Batch	Company Name	No. of Students placed
	Infosys	41
	IVTL	5
	TCS	20
2016-2020	VisualBI	1
	Zoho (Cliqtrix)	2
	Zoho(marketing)	1

Faculty Contributions

Faculty Development Programme

FACULTY PUBLICATIONS



Faculty Contributions

KNOWLEDGE ENRICHMENT THROUGH FDP

Name of the Faculty	Title of the program	Duration (from – to) (DD-MM-YYYY)
Dr. S. A. Sahaaya Arul Mary	4 days Online Course on Examination Reforms	42 days(29/4/20 to 02/05/20)
	Spoken Tutorial ~PHP and MySql	5 days(27/4/2020 to 1/5/2020)
Dr.S.Mohana	Agile Methodologies	3 days(20/5/2020 to 22/05/2020)
	Agent Based Intelligent Systems	3 days(4/5/2020 to 6/5/2020)
	Programming in Java	NPTEL course-FDP
Dr.P.L. Rajarajeswari	Data Sciences	5 days(18/4/20202 to 22/4/2020)
D1.1.L. Rajarajeswarr	Webinar Series on "Exploring Outcome based education and NBA process"	7/5/2020 to 13/5/2020
	5 days FDP on"Internet of Things"	5 days(4/11/19 to 8/11/19)
	Demestifying Networks	NPTEL course-FDP
	PHP and MySql	5 days(27/4/2020 to 1/5/2020)
Mr.S.Venkatasubramanian	Blockchain Technology	5 days(18/5/2020 to 22/5/2020)
	Advanced Python Programming using Django	5 days(21/5/2020 to 25/5/2020)
	Workshop on "Machine Learning"	3 days(27/5/2020 to 29/5/2020)

Name of the Faculty	Title of the program	Duration (from – to) (DD-MM-YYYY)
Ms.R.Thillaikarasi	Introduction to programming in C	NPTEL course-FDP
	5 days FDP on"Database Management Systems"	NPTEL course-FDP
Mr.K.S.Chandrasekaran	DataSciences	5 days(9/5/2020 to 13/5/2020)
Wit .K.S.Chandrasckaran	Practitioners Course In Descriptive,Predictive And Prescriptive Analytics	NPTEL course-FDP
	Cloud computing	NPTEL course-FDP
Dr. R.SenthamilSelvi	DataSciences	5 days(9/5/2020 to 13/5/2020)
	Agile Methodologies	3 days(20/5/2020 to 22/05/2020)
	Agent Based Intelligent Systems	3 days(4/5/2020 to 6/5/2020)
	Cloud Infrastructure and Virtualization	5 days(25/5/2020 to 29/5/2020)
Mr.T.Sathiskumar	R -programming	5 days(23/4/2020 to 27/4/2020)
	DataSciences	5 days(18/4/20202 to 22/4/2020)
Dr.N.Kavitha	The Joy of Computing using Python	NPTEL course-FDP
	Artificial Intelligence	5 days(27/4/2020 to 1/5/2020

Name of the Faculty	Title of the program	Duration (from – to) (DD-MM-YYYY)
	FDP on Art of Writing Papers and Research Methodologies	5 days(07/05/2020 to 13/05/2020
Mr.B.D.Boobala Muralidharan	5 Day Online Faculty Development Program on "IoT Trends to Drive Innovation for Business and Digital Technology",	5 days(11/05/2020 to 15/05/2020)
	Artificial Intelligence	5 days(18/05/2020 to 22/05/2020)
Mr.M.Anbazhagan	Python for Data Science	NPTEL course-FDP
	FEP on Python using InfyTQ platform	5 days(25/5/2020 to 29/5/2020)
K.Mohanappriya	FDP on MATLAB & Its applications in AI & ML	7 days (19/05/20 to 26/05/20)
	FEP on Python using InfyTQ platform	5 days(25/5/2020 to 29/5/2020)
Ms.J.Sathiaparkavi	5 days FDP on"Internet of Things"	5 days(4/11/19 to 8/11/19)
Mr.A.T.BaraniVijayakumar	Cloud computing	NPTEL course-FDP
	FEP on Python using InfyTQ platform	5 days(25/5/2020 to 29/5/2020)
	Artificial Intelligence and Machine Learning	2 days(29/5/2020 to 30/5/2020
	Artificial Intelligence	5 days(22/5/2020 to 26/5/2020)
	Php and MySQL	6 days(18/5/2020 to 23/5/2020)
	Migration of IT Infra using cloud	2 days(20/5/2020 to 21/5/2020)
	Prospects in Security and Privacy with emerging technologies	5 days(25/5/2020 to 30/5/2020)
	Webinar on "Role of data analytics and cloud computing in IoT"	2 days(1/6/2020 to2/6/2020)

Name of the Faculty	Title of the program	Duration (from – to) (DD-MM-YYYY)
	Python for DataScience	NPTEL course-FDP
	Technology Awareness program for faculty on DataScience and Analytics	5 days(21/5/2020 to 25/5/2020)
	R programming	6 days(23/4/2020 to 28/4/200)
Mr.R.Mohankumar	Machine learning algorithms,applications and advantages	5 days(25/5/2020 to 30/5/20220)
	Artificial Intelligence and Machine learning	2 days(29/5/2020 to 30/5/2020)
	Angular and Business Intelligence	2 days(3/5/2020 to 31/5/2020)
	Python for DataScience	NPTEL course-FDP
	Introduction to blockchain technology	5 days(25/5/2020 to 30/5/2020)
Mr.P.DineshKumar	Artificial Intelligence and Machine Learning	2 days(29/5/2020 to 30/5/2020)
	Webinar Series on "Exploring Outcome based education and NBA process"	7 days(7/5/2020 to 13/5/2020)
Mr.R.Karthik	R programming	5 days(25/5/2020 to 29/5/2020)
	Python	5 days(5/5/2020 to 9/5/2020)
	Prospects in Security and Privacy with Emerging Technologies"	6 days(25/5/2020 to 30/5/2020)
Mr.P.B.Arunprasad	R programming	5 days(25/5/2020 to 29/5/2020)
	Prospects in Security and Privacy with Emerging Technology	5 days(25/5/2020 to 30/5/2020)
	Artifical Intelligence and Machine Learning	2 days(29/5/2020 to 30/5/2020)

Publications of Faculty

• S. VENKATASUBRAMANIAN, "Sign language Translation" in the proceedings of "6th international conference on Advanced computing and communication system (ICACCS)" on Mar 2020.

• V. Punitha, C. Mala, "Traffic classification for connectionless services with incremental learning", Computer Communications (Elservier), pp. 185–199, Vol. 150, 2020

• V. Punitha, C. Mala and Narendran Rajagopalan, "A novel deep learning model for detection of denial of service attacks in HTTP traffic over internet", Int. J. Ad Hoc and Ubiquitous Computing (Inderscience), pp. 240 – 256, Vol. 33, Issue. 4, 2020

• V. Punitha, C. Mala, "Traffic classification in server farm using supervised learning techniques", Neural Computing & Applications (Springer), 2020

• V. Punitha, C. Mala, "A Deep Learning Approach for Detection of Application Layer Attacks in Internet" in the proceedings of "Handling Priority Inversion in Time-Constrained Distributed Databases" Organized by IGI Global on 2020. ISBN13: 9781799824916

• R.Senthamil Selvi, "Optimal Feature Selection for Big Data Classification: Firefly with Lion-Assisted Model", Big Data, Vol. 8, Issue. 2, 2020, Impact Factor:2.106 • Anbazhagan Mahadevan and Michael Arock, "Integrated topic modeling and sentiment analysis: a review rating prediction approach for recommender systems", Turkish Journal of Electrical Engineering and Computer Science (SCIE), pp. 107–123, Vol. 28, Issue. 1, Jan 2020

• T. Sathis Kumar, Dr K.Latha, "Middleware interoperability performance using interoperable reinforcement learning technique for enterprise business applications", Journal of Intelligent & Fuzzy Systems, pp. 2119–2127, Vol. 38, Issue. 2, Feb 2020

NPTEL certifications by faculty:

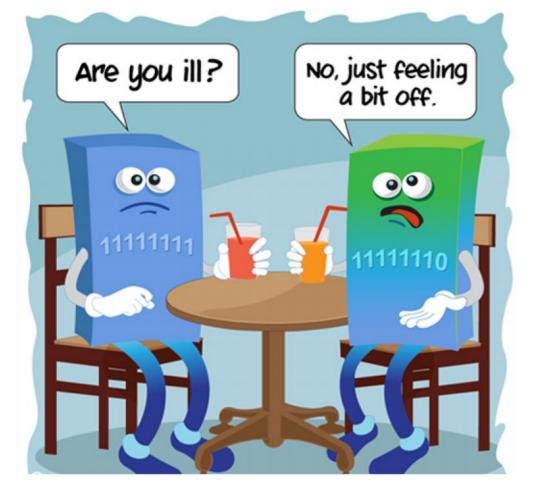
The following staff members have successfully completed NPTEL course

- Ø Dr.P.L.Rajarajeswari-Programming, Datastructures and algorithm using Python & Problem Solving through Programming in C
- Ø Ms.V.Punitha Machine Learning & Cloud Computing
- Ø Ms.K.Mohanappriya- Datamining
- Ø Mr.R.Karthik Datamining
- Ø Mr.P.B.Arunprasad Datamining



Technical jokes

• Two bytes meet. The first byte asks, "Are you ill?" The second byte replies, "No, just feeling a bit off."



- ^^^^
- Eight bytes walk into a bar. The bartender asks, "Can I get you anything?"
 - "Yeah," reply the bytes. "Make us a double."
- Q. How did the programmer die in the shower?
 A. He read the shampoo bottle instructions: Lather. Rinse. Repeat.
- How many programmers does it take to change a light bulb?
 None It's a hardware problem

- Why do programmers always mix up Halloween and Christmas? Because Oct 31 equals Dec 25.
- There are only 10 kinds of people in this world: those who know binary and those who don't.
- A programmer walks to the butcher shop and buys a kilo of meat. An hour later he comes back upset that the butcher shortchanged him by 24 grams.
- "Knock, knock."
 "Who's there?"
 very long pause....
 "Java."
- Programming is 10% science, 20% ingenuity, and 70% getting the ingenuity to work with the science.

Funny Error message





Bluejacking

Bluejacking is used for sending unauthorized messages to another Bluetooth device. Bluetooth is a high-speed but very short-range wireless technology for exchanging data between desktop and mobile computers and other devices.

Bluetooth has a very small range so only when a person is within 10 (highly location dependent) meters distance of a bluejacker and his Bluetooth enabled in his device, does bluejacking happen. Bluejacking involves sending unsolicited business cards, messages, or pictures. The bluejacker discovers the recipient's phone via doing a scan of Bluetooth devices. He would then select any device, craft a message as is allowed within the body of the phone's contact interface. He stays near the receiver to monitor his reactions.

The messages are anonymous to the recipient as only the mobile name and model number of the bluejacker's phone are displayed in the message. The only exception to the 10 meters distance is the involvement of a laptop, which can be done within a 100-meter range of the recipient. Although there is an infringement of territory of the recipient, bluejacking is not illegal, as it does not access the resources of the recipient device and does not steal anything either.

Steps To Bluejack A Device

- 1. Bluejacker opens his contacts and creates a new contact.
- BlueJacking
- 2. He does not save a name and number rather he saves the message in place of the contact and does not need to save a number (It is optional if he wants to send a business card, he can save the number).
- 3. He would scan for nearby Bluetooth devices.
- 4. He would then share the contact with the Bluetooth device connected.
- 5. The message will reach the recipient and he will have no clue as to who had sent the message

5G Wireless Technology

The search engine major Google has already confirmed that smartphone userbase has surpassed desktop userbase. If we go back a few years, the maximum RAM in a smartphone was in a few MBs only but now, even the smartphone configurations are competing with personal computers. It is evident that smartphone usage without the internet is barely minimum. With the increased dependency on IoT, internet speed plays a pivotal role.

The majority of companies think of future needs, innovations, services that could give a better life to mankind. Keeping this in mind, 5G thoughts were rolled a decade back even before the 4G technology was in place. Of course, the 4G has been a base to implement 5G. We will discuss about countrywide 5G rollout further in this article.

5G simply refers to the next and newest mobile wireless standard based on the IEEE 802.11ac *standard of broadband technology*. Rather than faster Internet connection speeds, 5G aims at a higher capacity than current 4G LTE, allowing a higher number of mobile broadband users per area unit, and allowing consumption of data quantities in gigabyte per second. This would make it feasible for a large portion of the population to consume high-quality streaming

media many hours per day on their mobile devices, also when out of reach of wifi hotspots. 5G research and development also aim at the improved support of machine to machine communication, also known as the Internet of things, aiming at a lower cost, lower battery consumption, and lower latency and to



increase the security and connectivity for a large community.

Thank You