

Computer Society of India Student Chapter

Activities 2018-19

Project Exhibition

Department of computer science and engineering conducted a final year students Project Exhibition on 26th April, 2019. There were 26 projects of various fields like Cloud Computing, Big Data Analysis, Image Processing, Network Security, Data Mining, Android Applications, RASPBERRY PI, Wireless Sensor Networks, E-Governance, Robotics, Web-services, E- Commerce, Mobile Applications, ERP and Healthcare.



Dr. Roopalaxmi, Dr. Sumith N., Prof. Jayanth Rathod, Mrs. Harshitha GM and Mr. Manjunath H. R had evaluated the projects.

Following is the glimpse of the Project Exhibition Day of Department of Computer Science and Engineering.



IoT Project on “Fuel tanker safety system”



Project on “Sign language communication”



Automatic Water tank Monitoring System



Intelligent Automatic Teller Machine



An android app developed for mushroom disease detection using data mining approach

The following projects were selected as the best projects for this year by judges.

Place	Project associates	Project guide	Title
First	Shilpa Shetty Sridevi Srujana Vishruth	Mrs. Vidya	Analysis of quality of coconut

Second	Adarsha MS Chaitra G Kumaraswamy	Prof. Venkatesh Bhat	Dynamic video stitching via shakiness removal
Second	Ganesh Shrikanth Heisam Sursita Madhukara Mishra Himanshu U	Mrs. Shruthi Shetty	Smart trash segregator dustbin monitoring system

All Projects Work Details CAY (2018-19)

Batch No.	Students	USN	Guide	Title	Domain/Type
B1.	Pratiksha Rai	4AL15CS070	Ms. Ankitha Shetty	Fuel tanker safety system	IoT/Embedded Systems Application
	Sumith Kumar	4AL15CS095			
	Varsha S	4AL15CS104			
	Shetty Aishwarya	4AL15CS114			
B2.	Kusumasri	4AL15CS099	Mr. Tahir N	Prevention of phishing attacks on voting system using visual cryptography	Network security Review
	Vaibhavi K	4AL15CS102			
B3.	Raja Rajeshwari	4AL15CS075	Mr. Vivek Sharma	Automobile anti theft system	Embedded Real Time systems Application
	Shreyas Rao	4AL15CS088			
	Thripathi A H	4AL15CS101			

B4.	Arjun K AmithD'silva Deekshith Raj	4AL14CS012 4AL15CS025 4AL15CS048	Mr. Vivek Sharma	AI consultant partner	Artificial intelligence Review
B5.	Nidhi Aradya Meghan G R Thejaswini m b Sanjay	4AL15CS063 4AL15CS056 4AL15CS010 4AL15CS085	Mr. Harish Kunder	Removal of Gaussian impulse noise from computed tomography	Image processing Research
B6.	Rahul nayak Pooja Mukesh Rakesh	4AL15CS073 4AL15CS065 4AL15CS060 4AL15CS076	Mrs. Merlyn	Traffic management near U-turns to avoid accident	IoT Application
B7.	Sridevi Srujana Vishruth Shilpa Shetty	4AL15CS092 4AL15CS093 4AL15CS108 4AL15CS086	Mrs. Vidya	Analyzing the quality of coconut	Machine Learning Research
B8.	Ashwini Shetty Devika Shetty Deeksha Shetty Deeksha	4AL15CS017 4AL15CS027 4AL15CS028 4AL15CS030	Mr. Chanchal	Advanced data integrity checking mechanism in cloud	Network security Research
B9.	Divya R Megha Jasmine Jolyn	4AL15CS032 4AL15CS055 4AL15CS043 4AL15CS046	Dr. Sumith N.	Intelligent Automatic Teller Machine	Algorithm Research
B10.	Adarsh rai Mayor Shetty Tusharpoojary	4AL15CS074 4AL15CS084 4AL15CS067	Dr. Mohideen Badhusa S	Recovery of fault node in WSN for smart agriculture	Wireless sensor network Application
B11.	Priyanka BM	4AL15CS071			IoT

	ShruthiSalian	4AL15CS090	Dr. Manjunath Kotari	Automatic driver drowsiness detection system using GSM and Raspberry Pi	Application
	Surekhareddy	4AL15CS097			
	Vinay	4AL15CS106			
B12.	Adarsh MS	4AL15CS002	Mr. Venkatesh	Dynamic video stitching via shakiness removing	Image processing Application
	Chaitra G	4AL15CS023			
	Kumaraswamy	4AL15CS051			
B13.	Ganesh	4AL15CS034	Ms. Shruthi	Sensor based smart dustbin for waste segregation using GSM	IoT Application
	Sursita	4AL15CS039			
	Madhukara	4AL15CS054			
B14.	Yogesh UH	4AL16CS403	Mr. Sushanth M	Video steganography to secure communication using LSB matching revisited algorithm for military application	Network security Research
	Pramod KS	4AL15CS112			
	Sneha K N	4AL15CS091			
	Suraksha RB	4AL15CS096			
B15.	Adithya V Shetty	4AL15CS004	Ms. Reena	Easy surf	Web application
	Algeena carol	4AL15CS007			
	Aditya Naik	4AL15CS115			
B16.	ArcharyaRakshitha	4AL15CS001	Mr. Hemanth Kumar	Smart irrigation	IoT Application
	Kavya rai	4AL15CS049			

	Hema	4AL15CS040			
	Pavithra G	4AL14CS051			
B17.	Geethanjali	4AL15CS035	Ms. Megha	Smart parking system	IoT Application
	Aishitha	4AL15CS015			
	Anushri	4AL15CS012			
	Anusha	4AL15CS011			
B18.	Anu Prakash	4AL15CS010	Mrs. Harshitha	Behavior analysis based on tweets: a classification approach	Machine learning Review
	Chithra	4AL15CS024			
B19.	Aishwarya K	4AL15CS005	Mr. Parikshith Nayaka	E bank Log system	Network security Application
	Arjun V	4AL15CS013			
	Bhargavi	4AL15CS020			
	Jeffin	4AL15CS035			
B20.	Arpitha	4AL15CS014	Mrs. MangalaKini	Auto detection of phishing websites using machine learning	Machine learning Research
	Ashrithajain	4AL15CS016			
	Chaithra	4AL15CS022			
	Deekshitha	4AL15CS029			
B21.	PoojaryPrajwal	4AL15CS066	Mr. Sayeesh	The voice of citizen	Web based application
	Sachin pandith	4AL15CS081			
	Sushanth	4AL15CS098			
	Vilasraj	4AL15CS105			
B22.	Poorna	4AL15CS068	Dr. Manjunath Kotari	Water tank monitoring system	IoT Application
	Shraddha	4AL15CS087			
	Sudharshan	4AL15CS094			
	Nishmitha	4AL15CS064			
B23.	Jagdish	4AL15CS042	Ms. Shilpa	Sign language communication	Machine learning
	Tejaskajare	4AL15CS047			

	Lalithkumar	4AL15CS053			Application
	Yathish	4AL15CS018			
B24.	Priyanka SP	4AL15CS072	Mr.	Secured data	Security
	ShrideviPrabhu	4AL15CS089	VasudevSha	sharing in cloud	Application
	Nalini	4AL15CS079	hpur		
	Ranjith	4AL16CS401			
B25.	Akshay	4AL15CS037	Mr.	Implementation of	Network
	Adarshpujar	4AL15CS003	VasudevSha	DNA	security
	Ankith	4AL15CS009	hpur	cryptography in	Research
	Vinay S	4AL15CS106		cloud computing	
B26.	Nidhi C	4AL15CS062	Mr.	An android app	Machine
	Prajwal S	4AL15CS069	Hemanth	for mushroom	learning
	Shetty Niketha	4AL15CS113	Kumar	disease detection:	Application
	Rakshitha M	4AL15CS078		A data mining approach	

Mobile Application Development using Android

8 days National Level workshop on the theme “Mobile Application Development using Android” was organized from 16th January 2019 to 23rd January 2019 by Alva’s Institute of Engineering & Technology, Moodbidri, Karnataka with Technical Collaboration of Computer Society of India Student Chapter and Co Sponsored by Dlithe Bangalore.

The formal inaugural function was graced by the presence of our Head of the Department Dr. Manjunath Kotari, Mr. Arun V Rajpurohith Founder Dlithe Bangalore, Mr. Avinash R S Corporate Trainer – Android & Robotics and Certification Course Coordinator Prof. Harish Kunder.

52 CSE students were registered for the course and obtained a Certificate from the Dlithe Bangalore.



Day wise coverage of technical topics are mentioned below:

Day1:

1. Basics of java is refreshed that is required for mobile app development.
2. History of mobile app development, history of Android version, types, usage etc
3. Students experienced installing Android development environment and configured it in the systems
4. Case studies are shared

Day2:

1. Android architecture
2. Dalvik Virtual Machine
3. Android Virtual Device
4. Android components
5. Core building blocks
6. Android File structure
7. Android widgets such as text view, edit text, button
8. Developed one Login screen with happy and negative scenario
9. Activity and activity lifecycle
10. Activity Communication

**Day3:**

1. Students have learnt & practiced on various features like

- Check box
- Radio Button
- Toggle Button
- Radio Box
- String builder
- String buffer

2. Small assignment on building a number calculator

Day4:

Topics and Assignments covered on

- Dialog box
- Adaptor
- Camera integration
- Video as assignment
- Agile development and explained how they can work on case study using it.

Day5:

Topics and Assignments covered on

1. WebView
2. Internet permission and communication
3. Action Call
4. Android permission
5. Self permission
6. Image Galary
7. Adding of Image to application
8. Autocomplete text view
9. Adopter with inbuilt function

Day6:

Topics and Assignments covered on

1. Android time picker
2. Spinner
3. Zygote
4. Memory management
5. Fragment
6. Fragment Life cycle
7. Fragment transaction

**Day7:**

1. Fragment Communication
2. Android menus
3. Broadcast
4. Content provider
5. JSON
6. Pending intent
7. SQLite DB

Day8:

1. Backend services and its integration with application
2. Start, Stop, binding of services
3. Assignment on service integration
4. Recap of 8 days program, students writing keywords on board
5. Online feedback from students

Case Studies:

The following case studies are assigned to respective batches. All the case studies are expected to be completed by end of March 2019

1. Grocery shop owner finding it difficult to visit APMC as its far and thus increasing his operational expenditures. He is in need of a simple app for placing his orders through a mobile app
2. Children's between the age of 4-12 are exposed to the internet world, thus watching video's online. Parents wish to have a mobile app which can streamline video related to kids interest and block rest everything
3. Saloon owner wish to have a mobile app for his VVIP customers to block the date with their choices of haircut etc..
4. Your college wish to have a mobile app with all relevant information and updates. Can you build one app?
5. Corporate wants a mobile app to capture minutes of meeting recording and convert that as report and send it to participant's email
6. Flower shop owner wants a mobile app for accepting the orders from his regular customers and deliver it with delivery confirmation through app
7. Dlithe would like to have a mobile app to collect "e-waste" from the households. A waste ordering/collecting app will help to collect e-waste from the households



Certification Programme 2018-19

Cyber Security

8 days Certification Course on “Cyber Security” was organized from 18th February, 2019 to 25th February 2019 by Department of CSE, Alva’s Institute of Engineering & Technology, Moodbidri, Karnataka with Technical Collaboration of Computer Society of India Student Chapter and Co Sponsored by Dlithe Bangalore.

The formal inaugural function was graced by the presence of Managing Trustee Sri. Vivek Alva, Principal Dr. Peter Fernandes, Head of the Department Dr. Manjunath Kotari, Mr. Arun V Raj Purohith, CEO Dlithe Bangalore, Mr. Deepak Bhatt, Information Security Consultant & Trainer, Infosectrain and CSI Student Branch Counsellor Prof. Harish Kunder.



The Resource Person Mr. Deepak Bhatt had given following assignments along with the hand-on training:

- Students are asked to do study on IPV4 addressing and to know how to set their kali Linux repository
- Introduction to Linux File System and Command Line
- Different Phases of Hacking
- Information Discovery
- Scanning
- Gaining Access
- Using Various Methods of Password Cracking
- Hackathon

On the final day, hackathon was conducted for all the participants. Following assignments were given.

- Windows XP hacking (Get the password key from the SAM FOLDER, also get system access) – 10 min
- Windows 7 hacking (Get the password key from the SAM FOLDER) – 20 min
- Troll 2 Machine Hacking (Get the root access) - 20 min
- Hackademic 1 hacking (Get the root and key.txt file inside root) – 30 min

Mr. Deepak (resource person) monitored and judged the students based on their successful completion and time taken to complete

Following were the winners

1. Priyanka, Sneha(Hacked Windows XP, Windows 7, Hacademics, Troll2 (Reached half))
2. Jayaraj ,Druvil (Hacked Windows XP, Windows 7, Hacademics, Troll2 (Reached half))
3. Niharika, Rahul (Hacked Windows XP, Windows 7, Hacademics)

About 70 CSE students were registered for the course and obtained a Certificate from the Dlithe Bangalore.

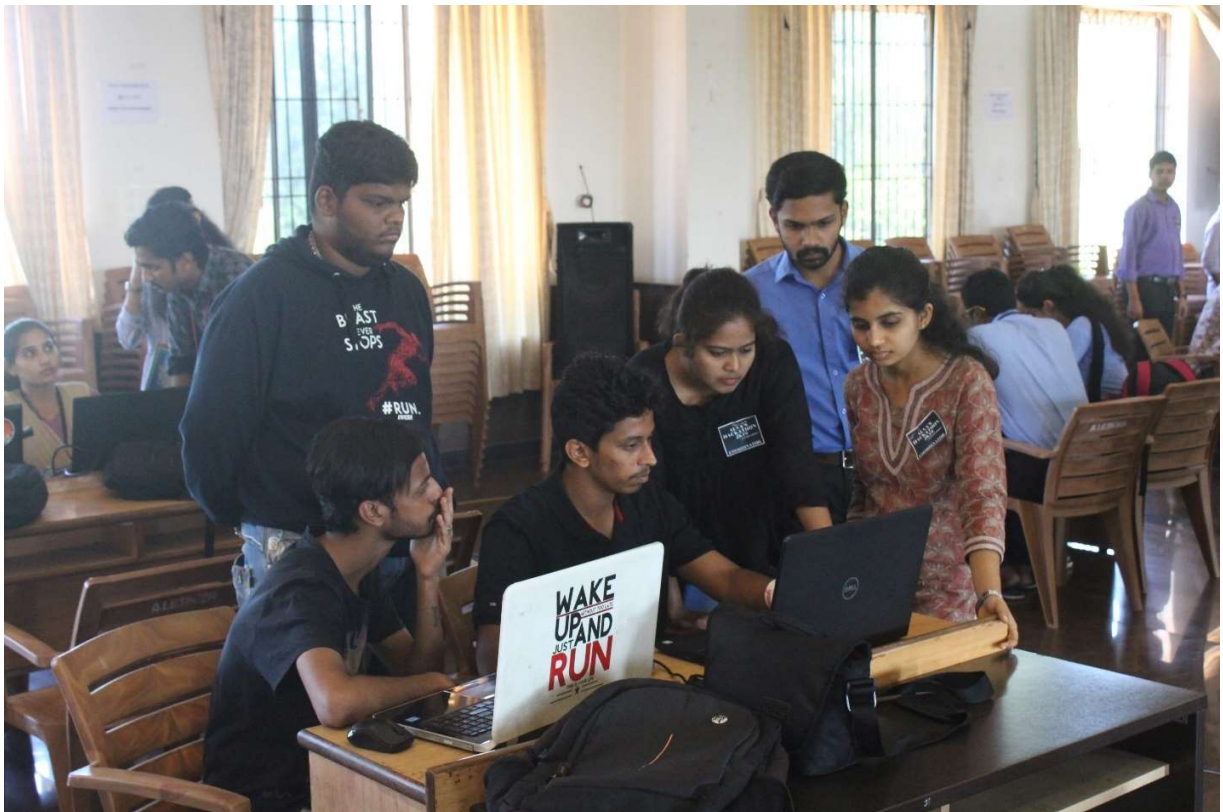
Hackathon 2018-19

ALVAS HACKATHON-2K19 was an inter collegiate technical event conducted by C-MANIAX forum of Computer Science & Engineering Department, Alva's Institute of Engineering & Technology, Moodbidri in association with CSI Student Chapter. ALVAS HACKATHON 2K19 gathered all the engineering minds of various Engineering colleges all over Karnataka. ALVAS HACKATHON 2K-19 provided the platform to showcase student's coding skills, hacking, web designing, chatbot development and app development abilities and gave them recognition.



ALVAS HACKATHON 2K19 was conducted on 18th February 2019 at AIET Campus. ALVAS HACKATHON 2K19 was inaugurated by Mr. Rakesh Chowdari, Developer @ Synopsis ,Bangalore with the presence of Mr.Vivek Alva, Dr Peter Fernandes, Dr. Manjunath Kotari, Mr. Hemanth Kumar N P ,C-Maniax Members, Faculty Members and Student participants.

There were 125 students of different Engineering Colleges who have actively participated in the Hackathon Event.



The list of ALVAS HACKATHON 2K19 Events:

EVENT NO.	EVENT NAME	PARTICIPANTS NO
1	HackerEarth Live Coding	79
2	Ethical Hacking	5
3	Web Designing	18
4	Mobile Application Development	17
5	Chatbot Development	8
		127

Winners list:

Prize	TEAM Member	Event
FIRST	Krishna Katira, AIET Ravish, AIET	HackerEarth Live Coding
SECOND	Kaushik Kotian, SIT, Mangalore	HackerEarth Live Coding
FIRST	Ravish, AIET Adarsh, AIET	Ethical Hacking
FIRST	Jude and group, SNM Polytechnic Moodbidre	Web Designing
SECOND	Shashank and group, AIET	Web Designing

TECHNOFIA'19

Technofia was an inter-collegiate technical fest conducted by C-Maniax forum of Computer Science & Engineering Department, AIET in association with CSI Student Chapter. Technofia gathered all the curious and engineering minds of 13 different Colleges of the various Engineering Colleges of Karnataka. Technofia-19 provided the platform to showcase student's talent and technical abilities and gave them recognition.

Technofia-19 was conducted on 14th& 15th March 2019 AT AIET main campus. Technofia-19 was inaugurated by Mr. Sheikh Moidin K M, Manager Operations, Expertise Contracting Co. Ltd and with the presence of Mr. Vivek Alva, Dr Peter Fernandes, Dr. Manjunath Kotari, Mr. Hemanth Kumar N P, C-Maniax members and all the participants from the various colleges.



There were 9 events which was a collaboration of both Technical and Semi-Technical Events. Around 400 students from various colleges were took part in various events. About 80 students from 13 different colleges participated in various events.

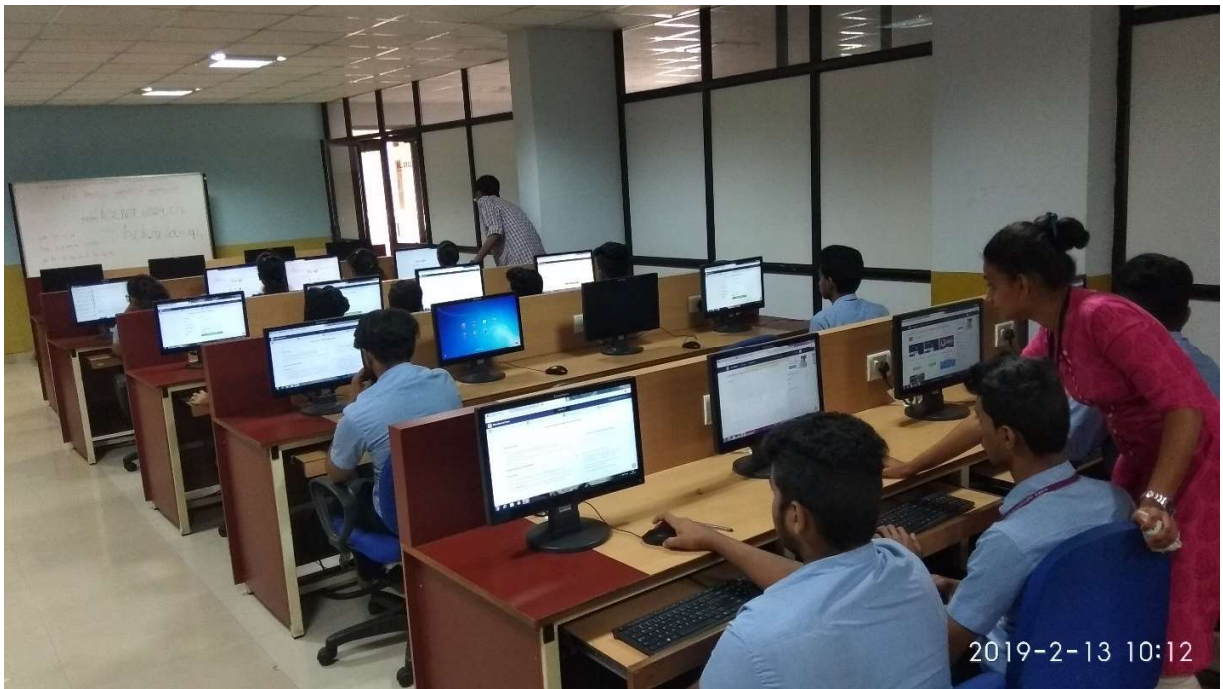


The Event lists and Winners of Technofia'19:

SL. NO	EVENT LIST	EVENT DESCRIPTION	NO. OF PARTICIPANTS	WINNERS
1	INTIMIDATORS	IT MANAGER (MARKETING)	20 PARTICIPANTS	1 ST - AIET 2 ND - PACE
- 2	INQUEST	TECHNICAL QUIZ	120 TEAMS	1 ST - SNMP 2 ND -PACE
3	PAPRIZZA	PAPER PRESENTATION	20 PARTICIPANTS	1 ST - AIET 2 ND -AIET
4	CODE HUNT	CODING	80 PARTICIPANTS	1 ST -AIET 2 ND -PACE

5	THE ARCHITECT	WEB DESIGNING	16 TEAMS	1 ST - AIET 2 ND - PACE
6	GAME BUZZ	GAMING: BLUR PUBG COUNTERSTRIKE	40 TEAMS	1 ST -AIET 1 ST -AIET 1 ST -ALVAS DEGREE
7	BID BIZZ	APTITUDE BIDDING	30PARTICIPANTS	1 ST - SDIT 2 ND -SIT
8	EUPHOROUS	TECHNICAL DUMCHARADES	80 TEAMS	1 ST - PACE 2 ND - AIET
9	CYPHER HUNT	TECHNICAL TREASUREHUNT	55 TEAMS	1 ST - AIET 2 ND - AIET

The organising of Technofia'19 bought a very good bonding among all the four batches of Computer Science branch. The event was a huge success in terms of participation from AIET and other college students. In coming years many more technical and semi-technical events can be added up. Many students from the 1st, 2nd, 3rd and 4th years took the initiative to conduct the particular event with the good participation spirit and with the support of the Management, HOD and Faculties of CSE, AIET.

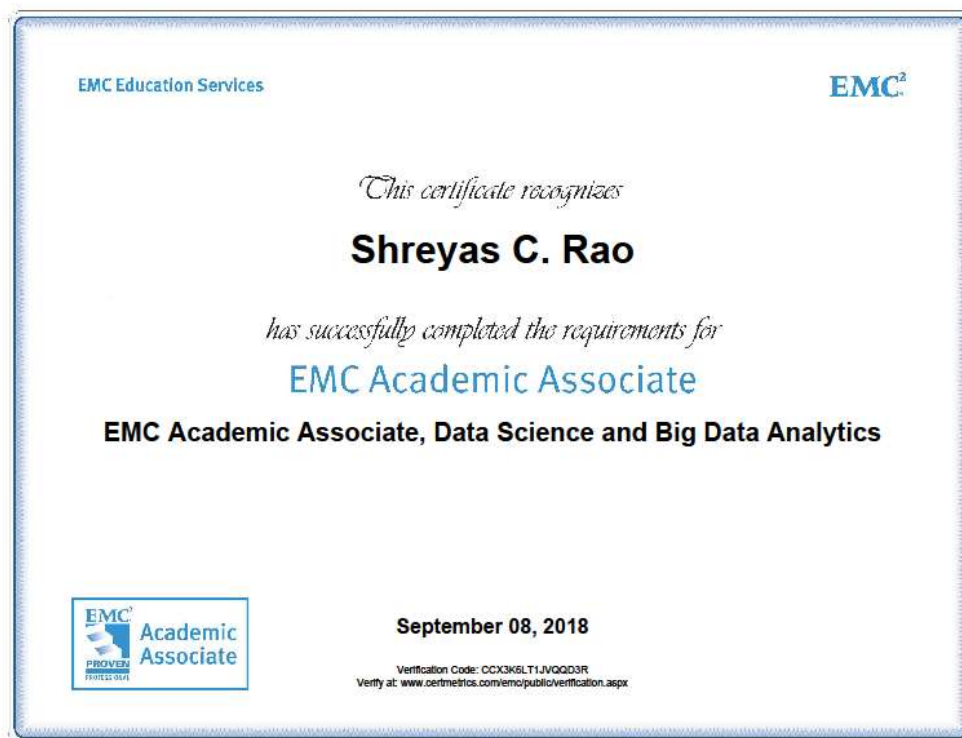




Dell EMC- Data Science and Big Data Analytics

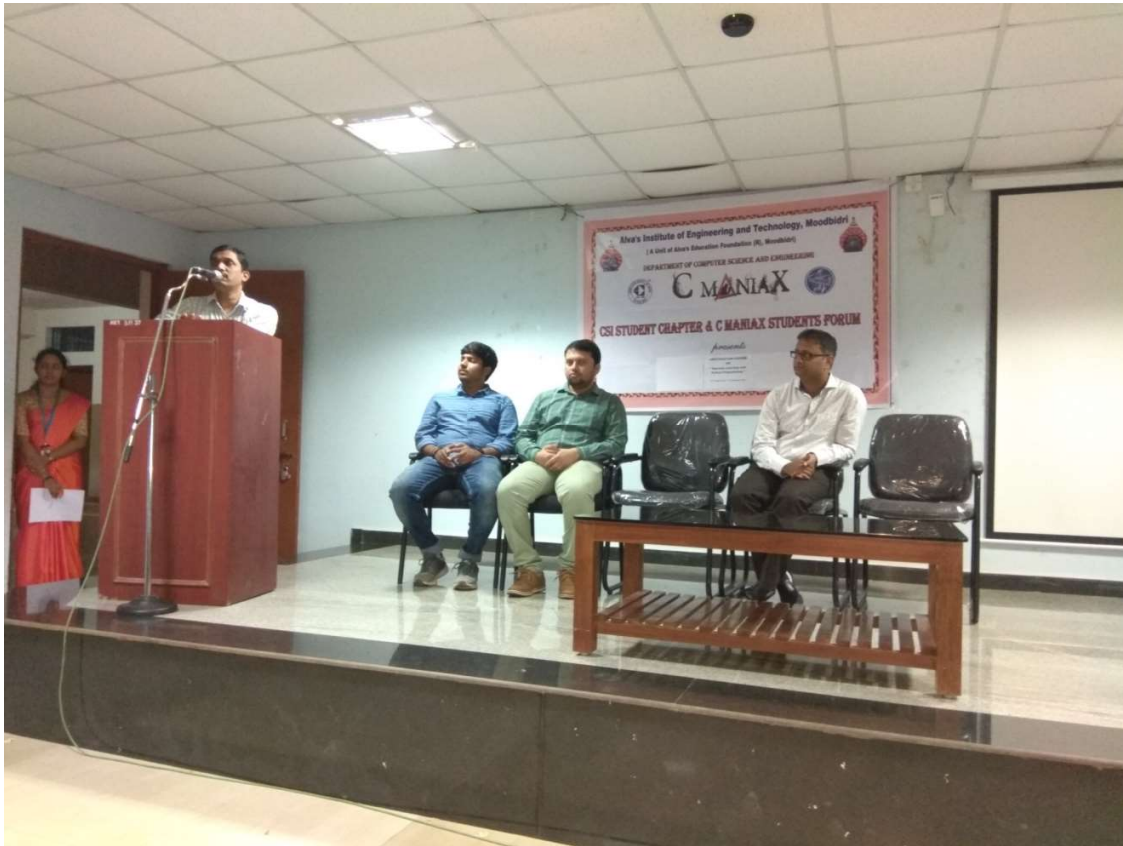
Department of CSE organized Certification Program on “**Data Science and Big Data Analytics**”. The Certification Programme was held during 3rd September 2018 – 8th September 2018. The inauguration of programme was held on 3rd Sept, 2018 at Engineering Seminar Hall. This Certification programme was held in association with ICT Academy Chennai and Dell-EMC, Bangalore. Mr. Dineshkumar Gandhi, Sr. Technical Trainer, ICT Academy, Ms. Fareha Hareem Sr. Trainer Dell-EMC and Mr. Basavadarshan, ICT Academy Relationship Manager were present during inauguration. Mr. Vivek Alva, Managing Trustee inaugurated the Certification programme along with Dr. Manjunath Kotari,

HOD CSE and Resource Persons of the Certification Programme. About 121 CSE students were participated and 81 students successfully Completed DELL-EMC Certification Exam.



Machine Learning using Python Programming

Department of CSE organized Certification Program on “Machine Learning using Python Programming”. The Certification Programme was held during 27th August 2018 to 1st September, 2018. The inauguration of programme was held on 27th Sept, 2018 at Engineering Seminar Hall. This Certification programme was held in association with Dlithe Software, Bangalore. Mr. Arun Rajpurohit and Mr. N.Sridhar Murthy Dlithe Software were the resource persons of the Certification Programme. About 81 CSE students were participated in this hands-on training session of Machine learning using Python.



Dr. D. L. D. have assigned the mini projects to the students to practice Python programming, machine learning during their 7th semester. This will help them to keep them abreast with technology. Students will also practice agile way of

working. Students have learnt using cloud code repositories such as “GIT HUB” and they will use it during project execution.

Dlithe will engage students on fortnightly basis and do on premise review to check the progress. Students are also appraised with Internship report which they must follow and update regularly based on project progress.

The projects belong to the following area: Banking & Finance, Retail, Entertainment / Social Media, Academics, Agriculture

Objective of these project executions is build application that can increase customer experience and optimize operational excellence.



SL#	Problem statement	Batch	Participants	Remarks
1	Postal department in India plays an important role in letter communication. In the digital world, we still see many letters address is hand written and processing, sorting takes more time. Department would like to have solution for	Batch 1	USN: Spoc 4AL15CS113 NIKITHA	The solution can be extended to all courier services companies. Also explore other applicability of text/image processing

	faster sorting, processing of letters.			
2	Police department and Intelligence bureau's always find it difficult to trace thieves, terrorists, rowdy sheeters since they change their appearance and freely roam around. Department would like to nab them using an intelligent system	Batch2	USN: Spoc 4AL15CS051 Kumarswamy	Usually the camera are installed and images are stored. Can you make use of this data set and build AI platform?
3	AIET website is awesome. However, a BOT would add value to increase customer experience and will result into operational excellence. Can you build a BOT for this?	Batch 3	USN:Spoc 4AL15CS048	Use text and voice datasets
4	Bank is experiencing a huge crowd during festival times. Bank manager is confused to take any decisions as the employees are distributed to serve customers with a defined plan. Can you build a platform to solve this problem?	Batch4	USN:	Use sound decibel devise, integrate with Python programming to Analyze the sound patterns and provide a decision making solution
5	Banks, Financial Institutions, Insurance companies always find it difficult when it comes to cheque processing. The difficult part is to match the signature and often cheques gets rejected. On the other side customer experiencing it hard about the returns. Can you build a platform with AI to match the text with nearest set?	Batch 5	USN: Spoc 4AL15CS022 Chaitra	The solution can also be useful for fraud prevention

6	A major retail vendor is introduced many new brands, however he is confused about the future of these brands and modification needed? Can you analyse the companies twitter tweets or feeds and help them to give some decision?	Batch 6	USN: Spoc 4AL15CS055 Megha	This can be applied to many industry segments
7	AIET can be benefitted more if ALEXA can be integrated with college infrastructure and make it functional to use it during inaugural functions like sports, tech, annual etc	Batch 7	USN: Spoc 4AL15CS040/104 Hema R, Varsha S	

Pre Final Year: Below are the assignment to practice during their 5th& 6th Semester

- ✓ Make a web application to predict the customer eligibility for a loan by analyzing the previous data
- ✓ Implement the basic idea of a self driving car using Open CV and Neural networks
- ✓ Create a web tool to predict the stock market by analyzing previous data
- ✓ Design a chat application to give suggestion by analyzing the user previous messages
- ✓ Create a home security system by analyzing the patterns of a persons movement in home using OpenCV or sensors
- ✓ Build an application to predict diabetics by analyzing the test report of a patient
- ✓ Develop a system to unlock the door by using facial recognition and facial expression recognition

Workshops & Training for Students 2018-19

Workshop on “Hadoop for Big Data Analytics”

Department of CSE organized workshop on “Hadoop for Big Data Analytics” in association with CSI student chapter for the final year students during 12th March to 19th March, 2019. The Workshop was inaugurated by Mr. Manjunath Mulimanni, Research Scholar, NITK, Surathkal , Dr. Manjunath Kotari HOD CSE and Prof. Jayathkumar Rathod, HOD ISE. The 97 final years were participated in this workshop.



Hadoop is 100% open or free source, and pioneered a fundamentally new way of storing and processing data. Instead of relying on expensive, proprietary hardware and different systems to store and process data, Hadoop enables distributed parallel processing of huge amounts of data across inexpensive, industry-standard servers that both store and process the data, and can scale without limits. With Hadoop, no data is too big. And in today's hyper-connected world where more and more data is being created every day, Hadoop's

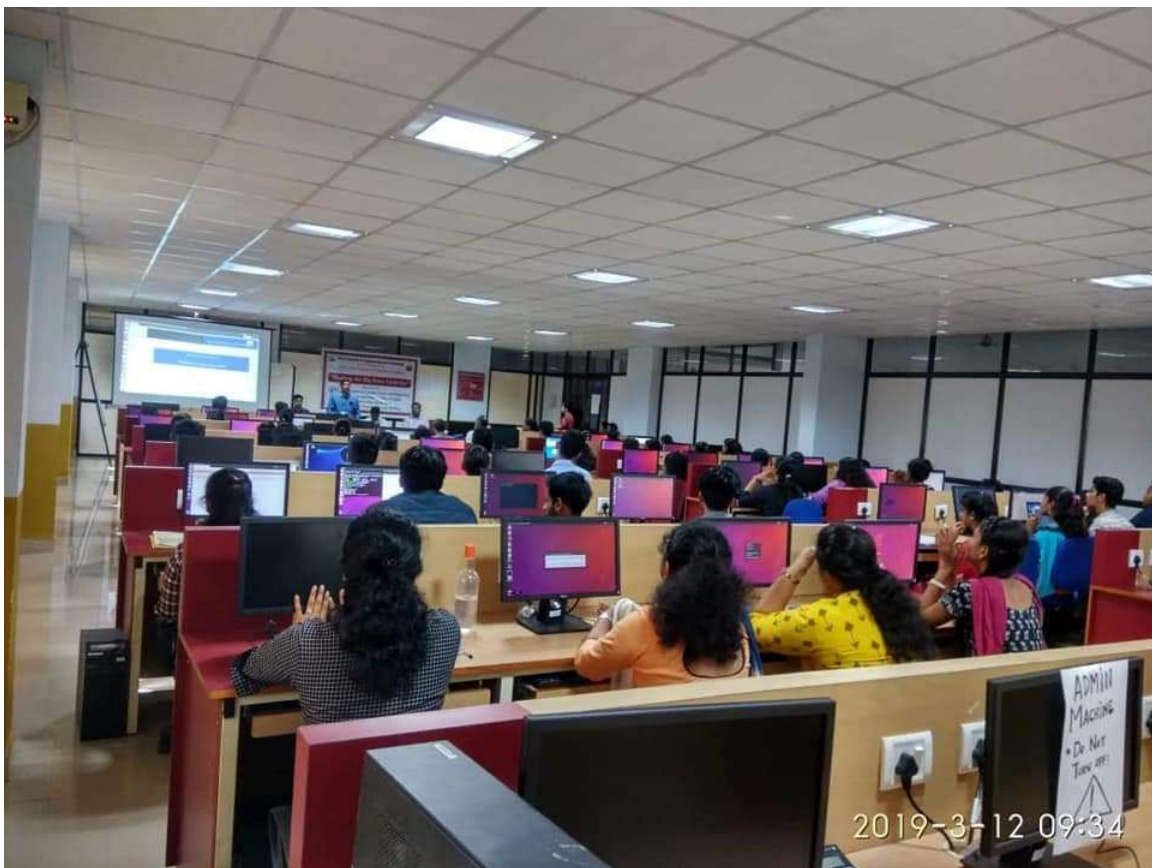
breakthrough advantages mean that businesses and organizations can now find value in data that was recently considered useless.

OBJECTIVE:

To gain the hands on experience in the Hadoop fo Big Data

FEED BACK

The participants learnt how to MapReduce using hadoop concepts. The speaker gave the details of Big Data from the scratch. He explained with good examples. Overall the participants were very happy. They attended the workshop with enthusiasm all the sessions. The workshop was a big hit.



OUTCOMES

The participants got both Theoretical and Practical knowledge about BIGDATA and HADOOP. Planning to setup BIGDATA and HADOOP Lab. More and more research activity are to be planned on HADOOP

RESOURCE PERSON

Mr. Manjunath Mulimani (Research Scholar)

Department: - Computer Science Engineering

Education: - NITK, Surathkal

Workshop on “Let’s Latex”

Alva’s Institute of Engineering and Technology conducted a 2 days Student development Program on “Let’s LaTeX” for Final year students organized by Department of Computer Science and Engineering on 14th and 15th February 2019 in association with CSI student chapter. The workshop was inaugurated by Dr. Manjunath Kothari A, H.O.D, Dept. CSE and also addressed the students. Resource person- Dr. Sumith N, all faculty members and final year students were also present during the inauguration.

Workshop Overview

This workshop imparts a fundamental knowledge required to design and write papers and reports using LaTeX tool. The practical exercises assigned amidst the lecture hours enhanced the interest of students to use the tool for their final year project report.

Course Goal: To master the techniques required to write a professional project report and paper based on the format of the respective publication.

Course Objective

- Learn syntax, features of, and commands to utilize the LaTeX tool.
- Design and write a document using the tool.

Topics covered

- Installing Latex Software
- Latex Environments And Packages

- Document Writing
- Paper Formats
 - IEEE
 - Springer
 - Elsevier Presentation Slides
- Writing Reports
 - Chapters
 - Section

Workshop on “C++ and Java”

Department of Computer Science & Engineering, Alva’s Institute of Engineering and Technology conducted a 5 days workshop on **“C++ and Java - an interview based approach and a bridge course for OOC with hands-on sessions”** for **2nd year students** in association with CSI student chapter on 11th to 15th FEB 2019. The workshop was inaugurated Mr. Vivek Alva, Managing Trustee, AEF. The Principal Dr. Peter Fernandes, AIET and Prof. Manjunath Kothari, H.O.D, Dept. CSE and all The HODs of various departments and all staff members and student volunteers were also present during the inauguration function along with the resource person Dr. S. MohideenBadhusha. And also total 123 participants from 2nd Year CSE were participated in this workshop.

Workshop Overview

- Basic fundamentals about c++ and java programming.
- This workshop provided a brief knowledge about object oriented concepts
- This workshop imparts a fundamental knowledge required to design and develop of mini project using object oriented concepts.
- This workshop filled gap between academic and university syllabus.
- The practical programming exercises assigned amidst the lecture hours enhance the interest of development of different real-life applications using c++, java and object oriented concepts.

Course Goal

To master all techniques of software development in the C++ Programming Language and demonstrate these techniques by the solution of a variety of problems spanning the breadth of the language.

Topics covered

- Intro to Classes and Objects
- Control Structures
- Methods
- Arrays
- Pointers
- Classes
- Inheritance
- Polymorphism
- Templates
- Exceptions
- Files
- STL
- Operator Overloading

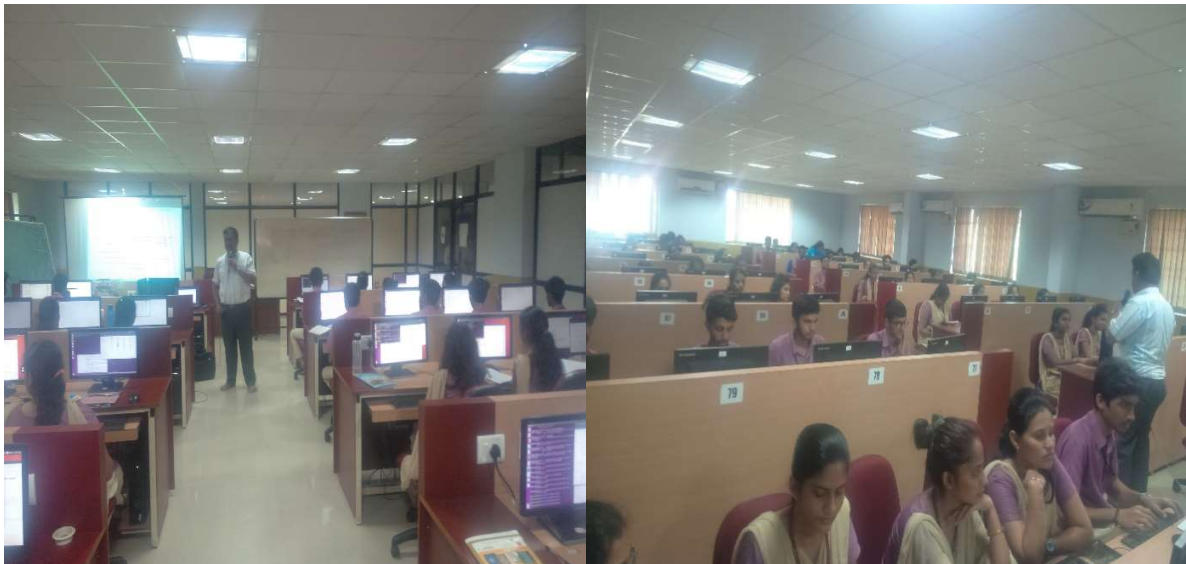
The proceedings of the workshop are as follows:

DAY 1

Session 1: Introduction to object oriented programming paradigm – Understanding of important basic terminologies of OOPs such as Class and objects, constructors, encapsulation, abstraction, Information hiding in C++ with example programs.

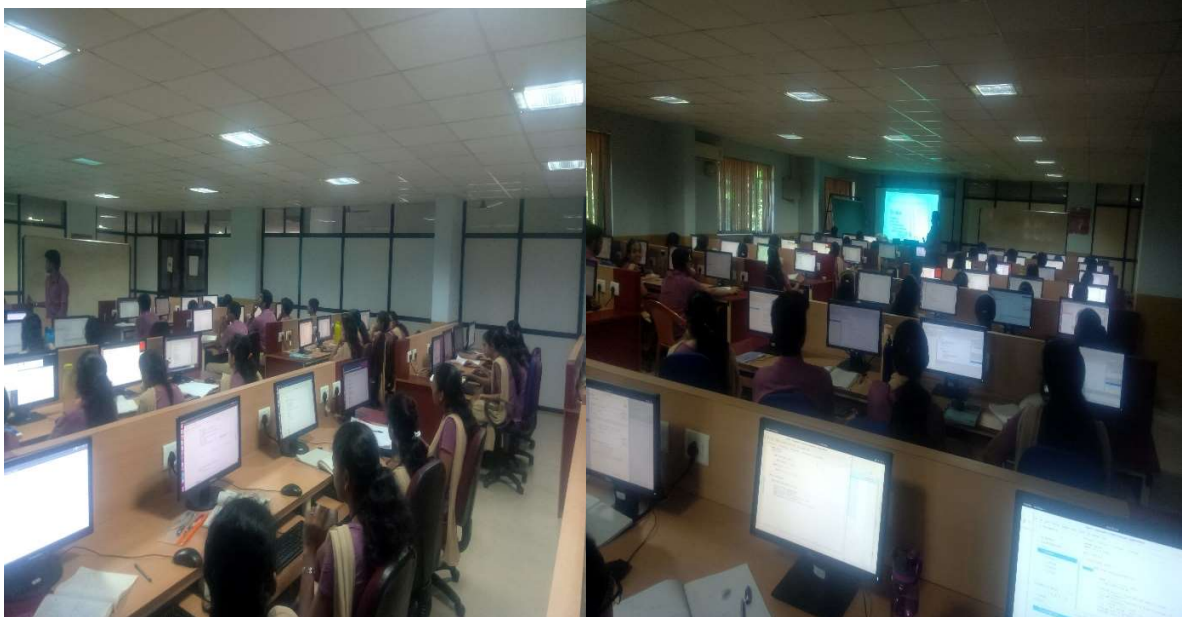


Session 2: Inheritance, types of inheritance, polymorphism, types of polymorphism, dynamic binding, Static binding, Virtual and pure virtual Functions, Abstract class, Templates in C++ with example programs.



DAY 2

Session 1: File handling functions, Exception handling, In-line functions and Friend function and class in C++ with example programs. Class and objects, constructors, encapsulation, abstraction, Information hiding in Java with example programs.



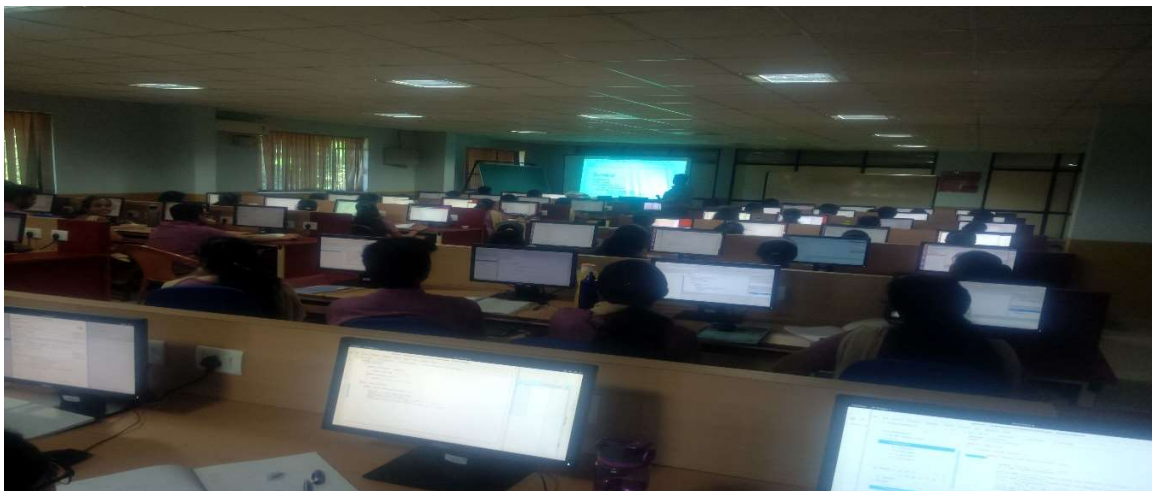
Session 2: Basic operators Logical expression; Type casting; Strings Control Statements: Selection statements, iteration statements, Jump Statements in Java and exercises



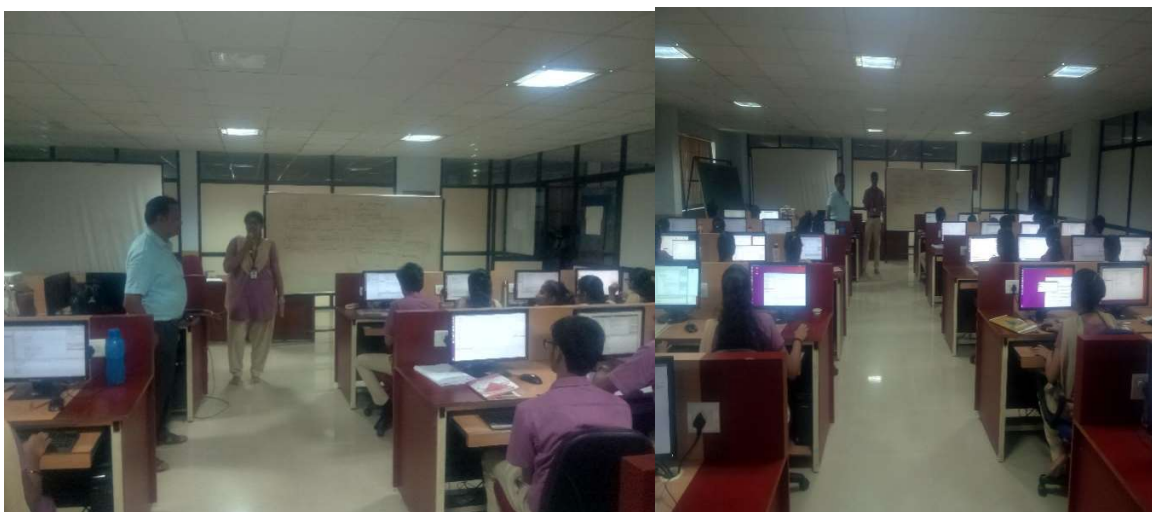
DAY 3

Session 1: Applets, Multi-Threaded Programming, Event Handling and Swings in Java and exercises

Session 2:Practice Session for rigorous training of Interview based questions



End of the session collected oral feedback from the students for the better enhancement of training programs in future.



The day was ended with a valedictory function where all the participants are provided with certificates.

Internship Training Program on Deep Learning

A three weeks Student Internship Program on 'Data Analytics, Machine Learning and Deep Learning' was organized by the Department of Computer Science Engineering, Electronics and Communication Engineering and Information Science Engineering at Alva's Institute of Engineering and Technology, for the students of Alva's Institute of Engineering and Technology

from 15th to 29th January 2019. Dr. Satish Kumar Singh, Associate Professor, Department of Information Technology, Indian Institute of Information Technology - Allahabad and Dr. Mohammed Javed, Assistant Professor Department of Information Technology, Indian Institute of Information Technology - Allahabad were present during inauguration.



The inaugural function commenced with a formal introduction of the dignitaries by Dr. Manjunath Kotari, HOD, Department of Computer Science Engineering, AIET and welcomed the gathering. Dr. Praveen J, Dean Academics, Department of Electronics and Communication Engineering introduced the resource persons. Mr. Vivek Alva, Managing Trustee AIET, Dr. Dattatreya G, Dean Research and Mr. Jayanth Kumar Rathod, HOD, Department of Information Science Engineering was also present in the inaugural function. Mr. Vivek Alva shared his experience about the visit to Indian Institute of Information Technology - Allahabad and briefed about the applications of machine learning and big data analytics and how it has gained its popularity in the recent times. Dr. Satish Kumar Singh delivered his address by stating that machine learning and AI concepts have been in existence since the 1960's but has only recently gained popularity due to advancements in computing and hardware technologies. Dr. Mohammed Javed, shared his experience he had at Alva's as

a student and how it moulded to shapen his career growth. He expressed his views on Big Data Analytics concluding the inaugural session, soon after which the internship sessions followed.



The following topics have been covered by resource persons daywise is as follows.

Date	Resource Person	Topics Covered
15/01/2019	Dr. Satish Kumar Singh	What is and image?, How images are formed? Digital images and biometrics
	Dr. Mohammed Javed	Data Analytics, Different type of tools for big data, An assignment to analyse and install different tools
16/01/2019	Dr. Satish Kumar Singh	Analysis of the biometric and biometric images, Gaussian curve analysis
	Research Scholars	Hands on session on Anaconda Navigator tool and Jupyter tools and their working

17/01/2019	Dr. Mohammed Javed	Image processing and its applications, image segmentation, filtering and others concepts
	Research Scholars	Hands on session on the numpy using Anaconda Navigator
18/01/2019	Dr. Mohammed Javed	MAT lab and image processing an Hands on session
	Research Scholars	Students done the Mini projects on the problems stated by Dr. Mohammed Javed to the various groups
19/01/2019	Research Scholars	MAT lab and image processing concepts with hands on session for segmentation, restoration, and etc.
	Research Scholars	MAT lab and image processing concepts with hands on session for, edge detection, object detection and etc.
21/01/2018	Prof. Shekhar Verma	Deep Learning Concepts, TensorFlow and TensorFlow library
	Dr. Krishna Pratap Singh	Training and Testing of Image procession and PytorchPackage installation and edge detections
22/01/2019	Prof. Shekhar Verma	Concepts of Supervised learning, unsupervised learning
	Dr. Krishna Pratap Singh	Concepts of Reinforced learning and semi supervised learning
23/01/2019	Prof. Shekhar Verma	Semi-supervised learning(SSL), Markov Decision Processes (MDP) Policy Future Return, Discounted Future Return , Deep Q-Network (DQN)

	Dr. Krishna Pratap Singh	Self-Training, Generative Models, S3VMs, Graph-Based Algorithms, Multi-view Algorithms
24/01/2019	Prof. Shekhar Verma	Random number generations, finding the distance programs and its executions
	Dr. Krishna Pratap Singh	K-Near and finite array , Graphical representation of KNN
25/01/2019	Prof. Shekhar Verma	Regression, Classification, Clustering, Under-fitting and OverfittingOptimization
	Dr. Krishna Pratap Singh	Linear Regression for Machine Learning, ReRegularizationgression Model Representation, Gradient Descent,

The valedictory program of the Internship was held on 29th Jan,2019.

Technical Talk on the topic

“Digital Revolution in India”

DATE & VENUE: 16/03/2019 at Engineering Seminar Hall

Resource Person: Mr. Gautham Bhat, Senior Technical Staff Member and Associate Director with IBM GTS’s Lab, Bengaluru

Mr. Gautham Bhat is a Senior Technical Staff member and Associate Director with IBMs GTS’s Lab. He explained how the Information Age (also known as the Computer Age, Digital Age, or New Media Age) is a historic period in the 21st century characterized by the rapid shift from traditional industry that the Industrial Revolution brought through industrialization, to an economy based on information technology. Central to this revolution is the mass production and widespread use of digital logic circuits, and its derived

technologies, including the computer, digital cellular phone, and the Internet. These technological innovations have transformed traditional production and business techniques. Digital technology is a base two process. Digitized information is recorded in binary code of combinations of the digits 0 and 1, also called bits, which represent words and images. Digital technology replaced analog signals for many telecommunication forms, particularly cellular telephone and cable systems.



He explained about how long has the technology is been around. Acheulean stone technology 1.6 million years ago (hand axe) Fire creation and manipulation, used since the Paleolithic, possibly by Homo erectus. He explained about the different technologies in the current what industry is expecting like block chain, artificial intelligence, fuzzy logic, data analytics. AI has immense potential to ease and enrich human life. It can eliminate the need of human involvement in tasks that pose threat to their life and safety. One of the most high risk situation in Defense, Reconnaissance missions, would need not use human actors anymore soon enough, when we develop sufficiently intelligent Autonomous Drones. Something as simple as a Google search employs Artificial Intelligence algorithms, to bring personalized search results

to users. Autonomous Weapons and Autonomous Drones are being researched globally, to reduce risks to human lives in Defense and Reconnaissance.

He explained about block chain like Banking and technology are very closely associated and innovations have changed banking drastically over the period of time. The digital innovations in the banking sector started with the introduction of money that replaced the barter system and then the gradual replacement of wax seal with digital signatures. One such disruptive innovation which is changing the banking sector globally is Blockchain Technology (BCT). Blockchain is shared distributed ledger which stores business transaction to a permanent unbreakable chain which can be viewed by the parties in a transaction. Blockchain technology has the potential to disrupt the financial business applications as it provides permanent and tamper proof recording of transactions in a distributed network.

Technical Talk on the topic

“Intel Software Tools”

DATE & VENUE: 11/03/2019 at Engineering Seminar Hall

Resource Person: Mr. Hemanth, Senior Software Engineer, Intel, Bengaluru..

Mr. Hemanth Kumar is an Software Engineer in Intel Software. He explained about the Intel Distribution of Python, Intel Optimized Tensorflow, Intel optimized Caffe, Intel Media SDK, Intel OpenVINO toolkit.

He started explaining about Intel Distribution of Phtyon, Intel® Distribution for Python* is a binary distribution of Python interpreter and commonly used packages for computation and data intensive domains, such as scientific and engineering computing, big data, and data science. The product supports Python 2 and 3 for Windows, Linux, and macOS. The product simplifies Python installation by providing packages in a binary form so that everything is preconfigured and no compilation tools are needed, as well as contains all the dependences for running on popular OS platforms. Python packages have been accelerated with Intel® Performance Libraries, including

Intel® Math Kernel Library (Intel® MKL), Intel® Threading Building Blocks (Intel® TBB), Intel® Integrated Performance Primitives (Intel® IPP), and Intel® Data Analytics Acceleration Library (Intel® DAAL). The packages have been optimized to take advantage of parallelism through the use of threading, multiple nodes, and vectorization.

He also explained about the Artificial Intelligence in Intel. An AI accelerator is a class of microprocessor or computer system designed as hardware acceleration for artificial intelligence applications, especially artificial neural networks, machine vision and machine learning. Typical applications include algorithms for robotics, internet of things and other data-intensive or sensor-driven tasks. They are often manycore designs and generally focus on low-precision arithmetic, novel dataflow architectures or in-memory computing capability. A number of vendor-specific terms exist for devices in this category, and it is an emerging technology without a dominant design. AI accelerators can be found in many devices such as smartphones, tablets, and computers all around the world. I is bringing new ways to use massive amounts of data to solve problems in business and industry—and in high performance computing (HPC). AI applications increasingly take on day-to-day use cases, HPC practitioners—like their commercial counterparts—are looking to move deep learning training off specialized laboratory hardware and software onto the familiar Intel®-based infrastructure already in place for handling a wide variety of HPC workloads.

To enable that workload flexibility, we optimized Intel® Xeon® Scalable processors for HPC and AI. We designed Intel® Omni-Path Architecture (Intel® OPA) fabric to provide high-performance communications across large clusters of Intel® Xeon® Scalable processor-based systems. And we've optimized the most widely applied AI frameworks to take full advantage of processor optimizations and available cores.

Hemanth Kumar explained about Intel Caffe. Caffe supports many different types of deep learning architectures geared towards image classification and image segmentation. It supports CNN, RCNN, LSTM and fully connected neural network designs. Caffe supports GPU- and CPU-based

acceleration computational kernel libraries such as NVIDIA cuDNN and Intel MKL and its applications are Caffe is being used in academic research projects, startup prototypes, and even large-scale industrial applications in vision, speech, and multimedia. Yahoo! has also integrated caffe with Apache Spark to create CaffeOnSpark, a distributed deep learning framework.



Technical Talk on the topic

“Moonshot”

DATE & VENUE: 15/02/2019 at MBA Seminar Hall

Resource Person: Mr Prithvi G, Senior Engineer, Axiom Research Lab, Bengaluru.

Mr. Prithvi G is an Senior Engineer in Axiom Research Lab which works for the TeamIndus Moon Mission & Systems Overview. He explained about the mission of the institute and also how the company has established. The Google Lunar X Prize was a competition announced in 2007 that was open to privately funded ventures aimed at inspiring the development of low-cost robotic lunar exploration. The competing craft were required to travel more than 500 metres

(1,600 ft) on the lunar surface and transmit high-resolution video and images once there. The TeamIndus' lunar lander platform was code-named HHK1. The team planned a further modification of the HHK1 for other terrestrial and interstellar application after the Google Lunar X Prize competition had completed. For the competition, the HHK1 was to deploy the rovers and then operate as the main communication and control unit consisting of payload, propulsion, structural and other sub-systems.



Prithvi explained about the context with respect to the lunar landing, Mission Trajectory, Lunar Orbit Strategy and Lunar descent. A Moon landing is the arrival of a spacecraft on the surface of the Moon. This includes both manned and unmanned (robotic) missions. The first human-made object to reach the surface of the Moon was the Soviet Union's Luna 2 mission.

As TeamIndus company is about to take students for internship Prithvi took test for 47 students and among them 6 students were shortlisted from the first round and they went for second round.