Department of Computer Science & Engineering



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N

VOLUME 7&8 JAN-DEC 2023

Department of Computer Science and Engineering

Our Patrons



Dr. A.J. Shetty President



Mr. Prashanth Shetty Vice President



Dr. Shantharama Rai C Principal

Vision of the Institution

"To produce top-quality engineers who are groomed for attaining excellence in their profession and competitive enough to help in the growth of nation and global society."

Mission of the Institution

- M1: To offer affordable high-quality graduate program in engineering with value education and make the students socially responsible.
- M2: To support and enhance the institutional environment to attain research excellence in both faculty and students and to inspire them to push the boundaries of knowledge base.
- M3: To identify the common areas of interest amongst the individuals for the effective industry- institute partnership in a sustainable way by systematically working together.
- M4: To promote the entrepreneurial attitude and inculcate innovative ideas among the engineering professionals.

Vision of the Department

"To adapt the evolutionary changes in computer science and expose the students to the cutting-edge technologies to produce globally competent professionals."

Mission of the Department

- 1.To mould the students by providing quality computer education and by strengthening the Industry-Academic interface.
- 2.To impart the professional skills, innovative research activities and entrepreneurial capabilities in students

Program Specific Outcomes(PSOs)

At the end of the program, graduates will be able to

PSO 1: Apply engineering principles, professional ethics and fundamental science in designing systems and communication models (protocols).

PSO 2: Design and develop smart and intelligent based applications in computational environment.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Program Educational Objectives (PEOs)

"PFO1

To develop in students, the abilities to solve real life problems by applying fundamental science and elementary strengths of computer science courses.

PEO₂

To mold students, to have a successful career in the IT industry where graduates will be able to design and implement the needs of society and nation.

PEO₃

To transform students, to excel in a competitive world through higher education and indulge in research through continuous learning process.

Program Outcomes (POs)

"Engineering Graduates will be able to:

- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- Modern tool usage: Create, select, and apply appropriate techniques, resources,

- and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- Project management and finance:
 Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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HOD's Message



Dr Antony PJ

Welcome to the Department of Computer Science and Engineering at A J Institute of Engineering and Technology!

It gives me great pleasure for releasing the next volume of our CSE department newsletter "Bits&Bytes". I would appreciate and congratulate all the staff of Computer Science & Engineering department of AJIET for the sincere hard work and coordination for bringing out this newsletter beautifully. I express my sincere gratitude to our management, Laxmi Memorial Educational Trust (R.), for providing the excellent facilities.

At the Department of Computer Science, we are dedicated to fostering a vibrant academic environment that promotes learning, innovation, and research. Our department is committed to providing a comprehensive education in computer science, equipping students with both theoretical knowledge and practical skills that are essential for success in today's dynamic technological landscape.

Whether you are a prospective student exploring our programs, a current student engaged in coursework and research, an alumnus/alumna making strides in the industry, or a visitor interested in our initiatives, we invite you to join us in shaping the future of computer science and engineering.

Thank you for your interest in the Department of Computer Science and Engineering. We look forward to welcoming you into our community!

Dr. Antony P. J. Professor & HOD

EDITORIAL BOARD



Dr Antony PJ Chairman



Asst.Prof. Stanley, Coordinator

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Technical talk on "Open Vino Toolkit"

By: Mr. Abhishek Mankame, 7th semester CSE, Microsoft Student Ambassador lead. 03/01/2023

OpenVINO is an open-source toolkit for optimizing and deploying deep learning models. It provides boosted deep learning performance for vision, audio, and language models from popular frameworks like TensorFlow, PyTorch, and more. The resource person explained about a typical workflow its optimization and deployment. A brief introduction was also given on high performance deep learning, model quantization and compression and open vino deployment on windows, linux and macOS. The OpenVino APi was also discussed. Some of the OpenVino examples using Python were demonstrated.



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Technical talk on "Cyber Crime"

By: Mr. Chirag Suvarna – Cyber Security Analyst at CyberSapiens, Mnagaluru 03/01/2023

The resource person enlightened the students on the various cyber threats in the current digital world. HE also told the methods to identify and be vigilant towards the different forms of hacking and cyber threats.

Various tools to identify spam, phishing, were discussed during the session and the resource person gave a brief insight into ethical hacking, kali linux etc.

The different Types of cyber threats such as the following were discussed

- 1. Cybercrime includes single actors or groups targeting systems for financial gain or to cause disruption.
- 2. Cyber-attack often involves politically motivated information gathering.
- 3. Cyberterrorism is intended to undermine electronic systems to cause panic or fear.



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Google Cloud Career Practitioner Campaign

By: Google student development lead Ms. Isha and Ms. Anvitha of 5th semester CSE, AJIET 09/01/2023

TThe google student development lead Ms. Isha and Ms. Anvitha of 5th semester CSE handled the event.

The students were given a brief introduction on the following topics

- Managing Cloud resources
- Fundamentals : Core infrastructure
- Perform Foundational infrastructure tasks in Cloud
- Essential Google cloud infrastructure
- Set up and configure a cloud environment in google cloud
- Core services
- · Getting started with google Kubernetes.
- Students could demonstrate their ability to adapt to a rapidly changing environment by having learned and applied new skills and new technologies.
- Develop the skills that will prepare them for lifelong learning in advanced areas of Google Cloud Infrastructure



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Hands-on Session on IOT-ESP32 and Raspberry Pi.

By: GK Bhat Kakunje, CEO & Managing Director Kakunje Software Private Limited 24/06/2023

• The IoT Club in association with CSI organized a student development Programme on "Hands-on Session on IOT-ESP32and Raspberry Pi". The event was scheduled on24-06-2023from 9:00amto4:30 pm at CAED Lab, ground floor.

The resource person explained the following

- · Introduction to IoT
- · Introduction to ESP32 and its Operating Modes
- · Introduction to Arduino IDE
- · Creating a Simple ESP32 Web Server in Arduino IDE

The audience were well versed after the training with the following

- ·Installing or Updating the Arduino IDE
- ·Installing the USB-to-Serial Bridge Driver
- ·Installing the ESP32 Arduino Core
- ·Selecting the Board and Port
- ·Testing the Installation



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Student Development Programme on "Cybersecurity and Ethical Hacking"

By: Mr. Dhanoop R, Associate member at National Cyber Safety Security Standards. Cyber Security Analyst at Techbyheart India Pvt Ltd. 08/07/2023

 The Department of CSE in association with Techbyheart, IoT club, CSI, Devnation organized a student development Programme on "Cybersecurity and Ethical Hacking". The event was scheduled on 08-07-2023 from 9:00 amto 4:30 pm at Computing Lab3 (A325), 3rd floor.

The resource person explained the following

- · Introduction to Cyber Security.
- · Introduction to Ethical Hacking.
- · Performing live cyberattacks on a website using kali Linux tools.
- · Developing a fake login template to breach user login details.

The audience were well versed after the training with the following

- What are the different types of cyber-attacks?
- What are the most common security vulnerabilities?
- How can I protect my personal data from being hacked?
- What are the ethical considerations of ethical hacking?
- What are some of the tools and techniques used by ethical hackers?



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Workshop on FLUTTER

By: Mr. Jose K James, Flutter developer, Flutter Lead at Tinkerclub

11/08/2023 to 12/08/2023

• The Department of CSE in association with TechbyHearts organized a student development programme on "FLUTTER" .The event was scheduled on 11th and 12th AUG 2023 from 9:00 am to 4:30 pm at Research Lab, 3rd floor.

The resource person explained the following

- ·Introduction to Flutter and Dart.
- ·Introduction to widgets and customizing UI.
- ·Difference between types of widgets.
- ·How to build apps from a given user interface.

The audience were well versed after the training with the following

- How to create a flutter project?
- ●How to use the named parameters to customize an widget?
- •What are the types of widgets?
- How can we efficiently refactor the code?
- How to breakdown any UI into widgets?



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Intra Institutional Innovation Competition and Reward Best Innovations

By: Institution Innovation Council -IIC cell – YUKTI NIR 26/062023

The Department of Computer Science and Engineering in coordination with the IIC cell – YUKTI NIR and R&D cell of AJIET organized an Intra Institutional Innovation Competition and Reward Best Innovations. on 26/06/2023 to encourage teamwork, collaboration, and innovation among the students, making the event a memorable and rewarding experience for everyone involved. Project was evaluated by a Panel of Internal Judge (Dr. Laxmi Gulappagol, Mr Chanchal Antony and Mr. Arul N) and one External judge Dr.Rithin Kumar N B, Asst. Professor, Dept. of Physics. All the posters prepared by the students were exhibited with their Project Models. All the posters prepared by the students were exhibited with an IIC logo and Submission ID in their posters. Participants were suggested to consider the current trends to improvise their works. Judges stressed upon the need to take initiative and to have the courage for unique and forward steps to become an entrepreneur. Judges also appreciated the innovativeness of the projects developed and the need to convert into prototype models.



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<u>Workshop on "Angular Reimagined: Catch-up Building Modern</u> <u>Web Applications"</u>

By: Mr. Vinod Kumar, CEO of SkillHouse & Aykan 11/11/2023

The workshop was held with a lot of fervour and determination on November 11, 2023, at 09:00 AM in A-307 lab at the A J Institute of Engineering and Technology, Mangalore. Angular is a web based framework developed by Google. It is creating ripples across the industrial circle. Organizations have started rewriting their web postures with angular. This is especially true with the Single Page Architecture (SPA). The resource person Mr. Vinod Kumar and his team of software engineers elaborated about the minute details related to the Angular framework.ngular is a web based framework for dynamic web apps. It lets you use HTML as your template language and lets you extend HTML's syntax to express your application's components clearly and succinctly. Angular's data binding and dependency injection eliminate much of the code you would otherwise have to write. Angular is a platform and framework for building single-page client applications using HTML and TypeScript. Angular is written in TypeScript. It implements core and optional functionality as a set of TypeScript libraries that you import into your applications.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Workshop on "Cyber Security Awareness"

By: Mr. Mohammed Sheik Nihal - CEO, EyeQ dot net Pvt. Ltd

Mr. Mohammed Amaan - Cyber security analyst, EyeQ dot net Pvt. Ltd

Mr. Mohammed Hazeem Shaim - Cyber security analyst, EyeQ dot net Pvt. Ltd and Team.

25/11/2023

Workshop on "Cyber Security Awareness" was held on Saturday 25th November 2023, from 9:00 am to 5:00 pm. During the two sessions, students got very good experience of interactive session on Cyber security Awareness & Cyber Hygiene, Cyber Crime Awareness and Practical Demonstration (WiFi Hacking, Payment Gateway bypass, Login Bypass, Phishing Attack). In between the session quiz was conducted by the resource persons, and lot of questions were answered. Cybersecurity awareness includes being aware of the latest security threats, cybersecurity best practices, the dangers of clicking on a malicious link or downloading an infected attachment, interacting online and so on.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

"Industrial visit to Infosys Mysore Campus"

Venue: Infosys Mysore Campus

04/11/2023

39 Students of 7th Semester along with 2 faculty members visited Infosys Mysore on 04-11-2023 at 10.00 AM. Infosys Mysore has an advanced "state of the art" training campus in Mysore.

A brief-versatile introduction about the Campus was given to the students. The Campus is mainly used for training new recruits. There was a mini city established inside the Campus which it is referred as Infosys Leadership Institution (ILI). It consists of Super Market, Music Room, Gym; Game Room etc were provided for the employees. Training period for IT Trainees is about 6 months. After the brief introduction, students visited Software Development Block (SDB) where the new software is developed and testing takes place. Then the students led to Special Economic Zone (SEZ) where the tax related activities takes place and only the authorized employee can enter this zone.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

"Industrial visit to Enkefalos Technologies at Mysore"

Venue: Enkefalos Technologies, Mysore

04/11/2023

39 Students of 7th Semester along with 2 faculty members visited Enkefalos Technologies, Mysore on 04-11-2023 at 03.00 PM. They have a well established office consisting of more than 50 employees at Sheshadripuram Mysore. Enkefalos showed us how they work with the Fine-Tuning LLM Models to elevate the Al game by fine-tuning Large Language Models (LLMs) to perfection. From zero-shot to few-shot fine-tuning, they discussed with students about how to optimize models that understand context, generate human-like text, and fuel your applications. They did talk about the Lang Chain Framework which seamlessly integrates Al-driven chat bots into any business strategy using their Lang chain framework. Extracting valuable insights from the documents with their Al-driven Quality Assurance (QA) services were discussed. Their models can comprehend, analyse, and extract meaning from structured data; ensuring crucial detail is never missed.



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SI.No.	NAME	USN	COMPANY NAME	DESIGNATION	PACKAGE
1	ANEESH M BHAT	4JK19CS009	Sasken RedHat Software TCS	Associate Software Engineer Bakend Developer Assistant System Engineer-Trainee	5.10 LPA 16 LPA 7 LPA
2	HARSHITH J POOJARY	4JK19CS020	Sasken	Associate Software Engineer	5.10 LPA
3	ABHISHEK D MANKAME	4JK19CS002	Kyndryl	Associate Technical Engineer	4.25 LPA
4	AMAN	4JK19CS008	Kyndryl	Associate Technical Engineer	4.25 LPA
5	GAYATHRI M N	4JK19CS019	Kyndryl	Associate Technical Engineer	4.25 LPA
6	PAYAL	4JK19CS034	Kyndryl	Associate Technical Engineer	4.25 LPA
7	EXSON NAVEIL PEREIRA	4JK19CS017	Mu Sigma	Trainee Decision Scientist	5 LPA
8	KHUSHI PAL	4JK19CS026	Mu Sigma	Trainee Decision Scientist	5 LPA
9	SANDEEP BENNY	4JK19CS046	Mu Sigma	Trainee Decision Scientist	5 LPA
10	KARTHIK R	4JK19CS024	Novigo Solutions	Software Engineer	4 LPA
11	MOHAMMED SHAMAL	4JK19CS030	Novigo Solutions	Software Engineer	4 LPA

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SI.No.	NAME	USN	COMPANY NAME	DESIGNATION	PACKAGE
12	SHAHAM ABDULLA C P	4JK19CS047	Robosoft Technologies	Trainee Software Engineer	4.5 LPA
13	DIVYATEJ V S	4JK19CS015	Jaro Intellipaat	Graduate Trainee Business Development Trainee	6 LPA 4.64 LPA
14	PRATHEEK B C KULAL	4JK19CS035	Intellipaat Invenger	Business Development Trainee Software Trainee	4.64 LPA 3.7 LPA
15	RAHUL HP	4JK19CS038	Intellipaat Ethnus	Business Development Trainee Trainee	4.64 LPA
16	SHRIJA B SHETTY	4JK19CS050	Intellipaat Ethnus QuickMetrix	Business Development Trainee Trainee Software Engineer	4.64 LPA 3 LPA
17	S. DIYA	4JK19CS040	Intellipaat Ethnus Qspiders	Business Development Trainee Trainee Incubation(Trainee)	4.64 LPA
18	ARVA FATHIMA	4JK19CS010	Intellipaat Ethnus	Business Development Trainee Trainee	4.64 LPA
19	NAZILAHAMAD	4JK19CS031	Intellipaat Spurtree	Business Development Trainee Software Developer	4.64 LPA 4 LPA
20	SINCHANA C SHETTY	4JK19CS052	Intellipaat Spurtree Specbee	Business Development Trainee Software Developer Trainee Engineer	4.64 LPA 4 LPA 3.5 LPA
21	KAUSHAL R	4JK19CS025	Intellipaat Qspiders 7Edge	Business Development Trainee Incubation(Trainee) Software Development Engineer	4.64 LPA
22	SACHIN A	4JK19CS042	Intellipaat	Business Development Trainee	4.64 LPA

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23	SAHAD ABDULLA C P	4JK19CS043	Spurtree	Software Developer	4 LPA
24	AKANKSHA	4JK19CS004	Skolar Maventics	Business Development Trainee Trainee Developer	3 LPA 4.5 LPA
25	AKANKSHA U SAADHANA	4JK19CS005	Skolar Ethnus QuickMetrix Accord Global	Business Development Trainee Trainee Software Engineer Engineer Trainee Software	3 LPA 3 LPA 4.2 LPA
26	LAKSHMIKANTH	4JK19CS028	Skolar Accolade Tech Solutions	Business Development Trainee Junior Software Developer	3 LPA 2.4 LPA
27	MITHUN KUMAR UMESH	4JK19CS029	Skolar Ethnus	Business Development Trainee Trainee	3 LPA
28	NISHANTH E	4JK19CS032	Skolar	Business Development Trainee	3 LPA

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29	NISHANTH A SHETTY	4JK19CS033	Skolar	Business Development Trainee	3 LPA
30	PRATHEEKSHA D	4JK19CS036	Skolar Turinminds Mu Sigma	Business Development Trainee Data Science Trainee Trainee Decision Scientist	3 LPA 1.8 LPA 5 LPA
31	RITHESH NK	4JK19CS039	Skolar Ethnus Qspiders	Business Development Trainee Trainee Incubation(Trainee)	3 LPA
32	SHRADHA SAJEEVAN	4JK19CS049	Skolar Ethnus QuickMetrix	Business Development Trainee Trainee Software Engineer	3 LPA 3 LPA
33	SIBIN T S	4JK19CS051	Skolar	Business Development Trainee	3 LPA
34	SURAJ J	4JK19CS055	Skolar Webwings	Business Development Trainee Software Engineer	3 LPA 4.8 LPA
35	THRUPTHI	4JK19CS056	Skolar Qspiders	Business Development Trainee Incubation(Trainee)	3 LPA
36	YASHASWI G PUTHRAN	4JK19CS060	Skolar Specbee	Business Development Trainee Trainee Engineer	3 LPA 3.5 LPA
37	YASHIKA A KRISHNANI	4JK19CS061	Skolar Ethnus Qspiders Webwings	Business Development Trainee Trainee Incubation(Trainee) Software Engineer	3 LPA 4.8 LPA
38	YOMITH T MENDON	4JK19CS062	Skolar TCS	Business Development Trainee Assistant System Engineer-Trainee	3 LPA 3.36 LPA
39	YUKTIKA A KRISHNANI	4JK19CS063	Tekion	Intern	8 LPA
40	ALBIN JOSEPH	4JK19CS007	Glow Touch	GloIntern	2.4 LPA

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41	DHANYA D SHETTY	4JK19CS014	Glow Touch	Gio Intern	2.4 LPA
42	JUGAL ALAN	4JK19CS023	Glow Touch	Glo Intern	2.4 LPA
43	SIRIUS THOMAS MATHEW	4JK19CS053	Glow Touch	Glo Intern	2.4 LPA
44	KITTU KUMARI	4JK19CS027	Ethnus Qspiders Webwings	Trainee Incubation(Trainee) Software Engineer	 4.8 LPA
45	SAHANA MANJUNATH NAIK	4JK19CS044	Ethnus Qspiders	Trainee Incubation(Trainee)	
46	ALBIN JOHN	4JK19CS006	Qspiders	Incubation(Trainee)	
47	SAMIKSHA S NAGWEKAR	4JK19CS045	Ethnus	Trainee	
48	VAISHNAV E	4JK19CS057	Ethnus	Trainee	
49	JOEL JOSEPH	4JK19CS021	Ethnus	Trainee	
50	JOEL SAM THOMAS	4JK19CS022	Ethnus	Trainee	
51	ATHUL SHAJI	4JK19CS011	KodNest Technologies Pvt. Ltd.,	Trainee	