Academic report

on

Graduation Outcome and Industry Exposure Programme

B.Sc. Computer Science 2021-24

Prepared by

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August 2024

Sullamussalam Science College & Department of Computer Science

The Journey..!

In the serene village of Areekode, nestled amidst the lush greenery of Kerala, lies Sullamussalam Science College, an institution that has defied the odds and emerged as a beacon of academic excellence and innovation. Despite its remote location and modest student intake in the Computer Science department, the college has embarked on a remarkable journey of transformation, propelled by a relentless pursuit of personal development, leadership, and technological advancement.

Under the visionary leadership of the Department of Computer Science and Innovation and Entrepreneurship Development Center (IEDC), the college initiated a series of personal development programs and tech activities aimed at nurturing the talents of its students. Through continuous monitoring and unwavering support from the college and department, Sullamussalam Science College has secured numerous prestigious achievements in academic competitions, inter-collegiate events, hackathons, idea contests, and startup ventures.

One of the pivotal initiatives undertaken by the college was the development of a pool of resource persons among students proficient in robotics and IoT. These students, empowered by their knowledge and skills, embarked on a mission to share their expertise with 25 campuses across Kerala. Through workshops and capacity-building activities conducted within these campuses, they not only imparted technical knowledge but also inspired fellow students to explore their potential and embrace innovation.

The college's close connection with industry leaders proved to be instrumental in fostering collaboration and facilitating experiential learning opportunities for students. Through strategic partnerships and initiatives, the college's IEDC garnered recognition from the Kerala Startup Mission, leading to its upgrade to a Technology Business Incubator (TBI). This transformation attracted several companies to set up operations within the campus, providing students with access to internships, startup support, and real-world industry exposure. Early on, the college embraced the concept of industry exposure, forging partnerships with leading companies to provide students with hands-on learning experiences. Each team, focusing on distinct domains in the latest technologies, was paired with industry experts who served as mentors, guiding them on their journey of discovery.

The AR/VR Team, under the guidance of Illuzia Lab in Kozhikode, delved into the realms of Augmented Reality and Virtual Reality, exploring the possibilities of immersive technologies in various fields. Meanwhile, the Python and ML Team, mentored by Dr. Prem Sankar of ICCCS College in Kochi, delved deep into the world of data science and machine learning, unlocking insights from vast datasets. Simultaneously, the Angular Node Software Tool Team, partnered with Nucore Software Solutions in Cyber Park Kozhikode, honed their skills in web development, while the IoT and Robotics Team, in collaboration with Climbot Innovations, delved into the realms of smart technology and automation.

As the students immersed themselves in their respective domains, the Mobile Application Team, guided by the IEDC, explored the realm of cross-platform app development using Flutter. Meanwhile, the Artificial Intelligence Team, mentored by Faculty members of Computer Science, ventured into the intricate world of AI, unraveling its mysteries and uncovering its potential. The collaborative efforts of students and industry mentors bore fruit as they engaged in weekly sessions, monthly workshops, and hands-on experiments, gaining invaluable insights and practical skills. The culmination of their efforts was marked by the successful completion of various projects, each demonstrating their proficiency in cutting-edge technologies.

As a result, the campus culture underwent a profound positive shift, with students seizing the opportunity to leverage the facilities and resources available to them. They immersed themselves in internships, embarked on entrepreneurial ventures, and nurtured their innovative ideas into viable startups. The once-quiet corridors of Sullamussalam Science College now buzz with the energy of creativity, collaboration, and entrepreneurial spirit.

Department of Computer Science 2021-2024 batch

Plan : To provide maximum exposure in academia, IT Industry, Placements, Internships, Research aptitude and Startups.

Expected outcome: Admission to Higher institutes and Central Universities, Job offer letters, Internship certificates, Research paper presentations and publications, Startup companies.

Methodology adopted: Thematic grouping, Workshops and mentoring, Internships, Industrial visits, Placement and progression awareness programs, Entrepreneurship and leadership events.

Outcome Achieved:

- 1 International Conference and 1 National conference presentations.
- 1 article accepted in Scopus indexed springer book chapter.
- 2 articles published in peer reviewed international journals with ISSN.
- 9 articles authored by all students published in a journal with ISBN number by publication division of SS College.
- 15 Internships completed.
- 5 students opted to Post graduation, 11 students opted for training and industrial jobs.
- 2 students successfully completed NPTEL courses.
- All students completed online courses and got certified from at least 3 online course providers like Udemy, Courseera, simplilearn etc.
- 1 Startup company incubated at RISE TBI.
- Bagged several prizes awards from state level Tech fest, competitions and idea pitching.



Few of the achievements are listed below.

The roadmap to achievements shall be summarized to following segments.

1. Early Exposure and Group Division:

- From the second year itself, divided students into groups focusing on different domains in the latest technologies.
- Assign mentors or representatives from industry to each group to monitor progress.

2. Industry Collaboration:

- Established partnerships with relevant companies in the industry to provide guidance and support.
- Ensure regular interaction between students and industry professionals through weekly sessions, monthly workshops, and hands-on experiments.

3. Focused Teams and Domains:

- Maintain diverse teams, each focusing on specific domains such as AR/VR, Python and ML, Angular node software tools, IoT and Robotics, Mobile application using Flutter, Web Development and UI Design and Artificial Intelligence.
- Each team should have dedicated supervision from experts in the respective fields.

Company Name	Location	Tool/ Technology	No. Of students
Nucore Softwares	ULCC Cyber park Kozhikode	Angular, Node JS	6
Illuzia lab	Govt. Cyber Park Kozhikode	Virtual Reality, Augmented reality	8
Bigbinary Academy	Infopark Kochi	Advanced Web development, UI UX	9
IEDC SS College	RISE TBI SS College	Flutter	7
ICCC College	Kochi	Python & ML	7
Faculty of Dept.	SS College	Artificial Intelligence	11

4. Continuous Learning and Skill Development:

- Encourage students to participate in orientation programs, conferences, and exclusive events related to their domain.
- Conduct special sessions for AI teams to ensure in-depth understanding and application of concepts.
- Provide access to resources such as books, online courses, and research papers.

5. Project-Based Learning:

- Emphasize hands-on projects that allow students to apply theoretical knowledge to real-world problems.
- Encourage interdisciplinary projects to foster collaboration and holistic learning.

6. Research and Publications:

- Guide students in converting their project reports into research papers.
- Facilitate participation in reputed conferences and journals by supporting paper submissions and presentations.

7. Academic Support and Mentorship:

- Provide regular mentoring sessions to monitor progress and address any challenges faced by students.
- Offer additional support for final year students, focusing on topics relevant to their academic projects.

8. Publication and Recognition:

- Compile all research papers into a book with an ISBN number, highlighting the unique achievement of BSc degree students.
- Encourage students to present their work at various forums to gain recognition and exposure.

9. Evaluation and Feedback:

- Implement a system for evaluating the effectiveness of the program and gathering feedback from students and industry partners.
- Use feedback to continuously improve and refine the academic excellence roadmap.

Industry Exposure Programs

1. AR/VR Team - Illuzia Lab, Kozhikode:

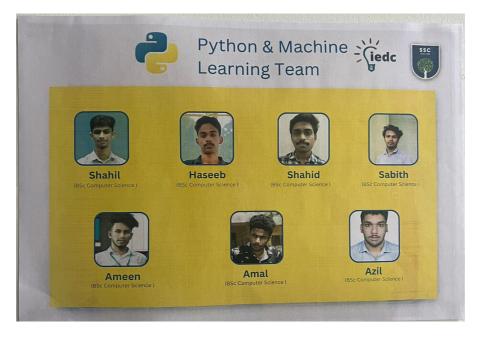
- Exposure and Knowledge: Working with Illuzia Lab exposes students to cutting-edge Augmented Reality (AR) and Virtual Reality (VR) technologies.
- Students learn practical applications of AR/VR in various fields such as gaming, education, and simulation.
- They gain insights into the development process, user experience design, and immersive technologies.
- Exposure to industry standards and practices enhances their skills in creating immersive experiences.





2. Python and ML Team - ICCCS College, Kochi

- Collaboration with Dr. Prem Sankar, HoD of Computer Science and Engineering Department, from ICCCS College guided students with expertise in Python programming and Machine Learning (ML).
- Students learn Python programming for data manipulation, analysis, and visualization.
- They delve into ML algorithms, model training, and evaluation techniques.



Online mentoring by Dr. Prem sankar from ICCS College, Kochi



3. Angular Node Software Tool Team - Nucore Software Solutions, Cyber Park Kozhikode

- Partnering with Nucore Software Solutions exposes students to web development using Angular and Node.js.
- Students gain hands-on experience in building scalable and efficient web applications.
- They learn about front-end and back-end development, RESTful APIs, and database integration.
- Exposure to industry-standard software development processes enhances their understanding of software engineering principles.





4. IoT and Robotics Team - Climbot Innovations:

- Working with Climbot Innovations exposes students to the Internet of Things (IoT) and Robotics.
- Students learn about sensor integration, data acquisition, and IoT protocols.
- They explore robotic systems, including hardware components and control algorithms.
- Exposure to practical IoT and Robotics applications prepares students for careers in smart technology and automation industries.



5. Mobile Application using Flutter – IEDC

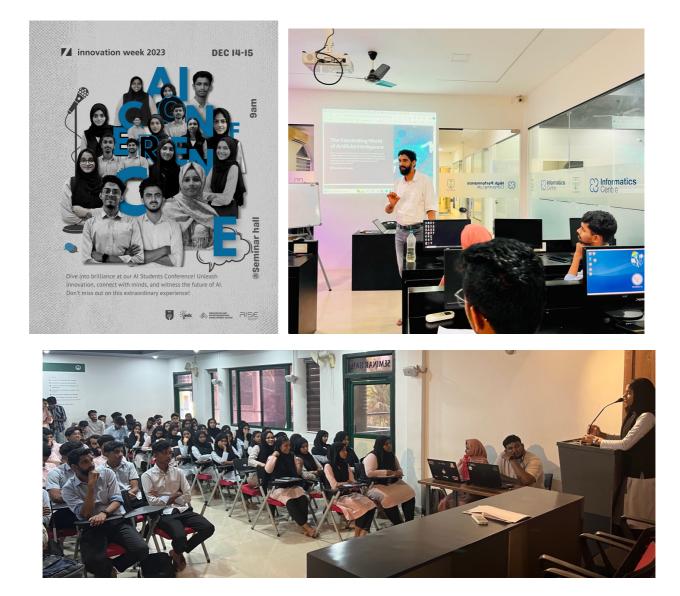
- Collaboration with the Innovation and Entrepreneurship Development Center (IEDC) focuses on mobile application development using Flutter.
- Students learn cross-platform app development, UI/UX design, and mobile app deployment.
- They gain insights into the startup ecosystem and entrepreneurship opportunities in the mobile app industry.
- Exposure to Flutter framework enables students to create versatile and feature-rich mobile applications.





6. Artificial Intelligence Team – Department Faculty members

- Faculty members who have exposure in AI & ML extended their support to develop a team exclusively for developing an AI team.
- Students delve into AI concepts such as machine learning, deep learning, and natural language processing.
- They gain practical experience in building AI models, training datasets, and deploying AI solutions.
- The AI team successfully conducted a 2 day students conference on 20 various domains comes under AI and ML.



6. Advanced Web Development and UI Design - BigBinary Technologies, Infopark Kochi

- Partnering with Bigbinary Software Technologies provides students with expertise in latest web development tools.
- Students delve into AI concepts such as HTML5, CSS 5, javascript libraries.
- They gain practical experience in building interatctive websites, animations and UI/UX standards.





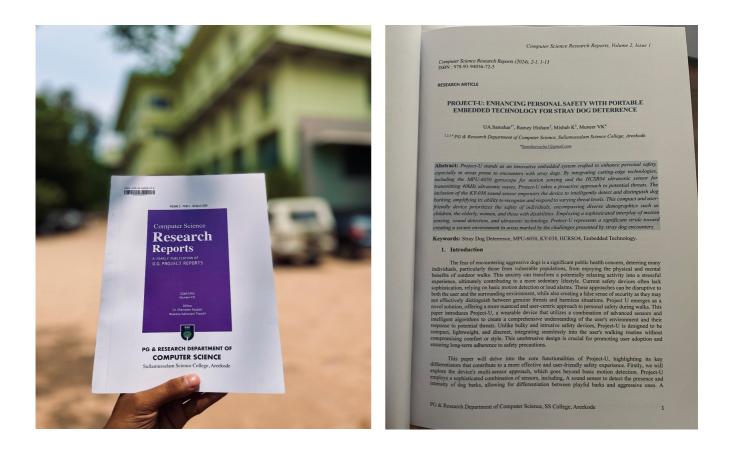
Outcomes

Computer Science Research Reports (2024)

Happy to share that the Department of computer Science of Sullamussalam Science College has released the printed book with ISBN number which contains the reports of 9 Research works (academic projects) done by Final year BSc Computer science students who were supervised by the faculty members of the department.

The book contains research works done using Machine learning techniques, Speech processing, Embedded systems, Intelligent object detection algorithms and Sign language processing tools. This is the First of its kind for the degree students.

The book can be read using the link <u>https://online.fliphtml5.com/cjrfg/sepj/index.html</u>



Research Report – Paper Titles

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9.	Speech Emotion Recognition For Malayalam Using Deep Learning Jalala P V, Rahbar Zahid S, Preethi M, Rizwana Kallooravi Thandil

Conference Presentations

International Conference of Artificial Intelligence and Speech Technology - IGDTUW Delhi



Presented a paper in 5th International Conference AIST 2023 – IGDTUW Delhi

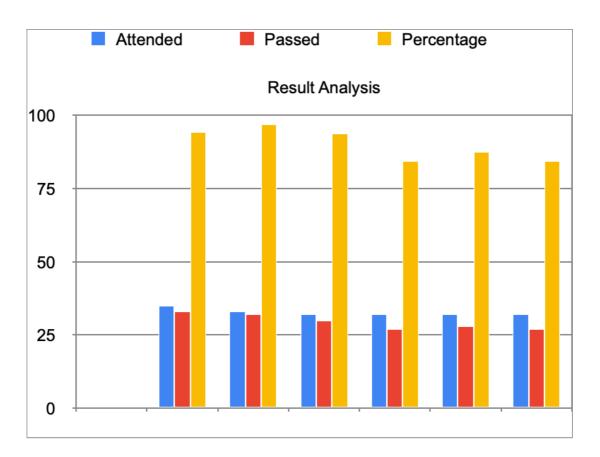


Haifa V presented a paper in the National conference conducted at University of Calicut.

Result Analysis

Semester	1	2	3	4	5	6
Attended	35	33	32	32	32	32
Passed	33	32	30	27	28	27
Percentage	94.28	96.96	93.75	84.35	87.5	84.37

The result is analyzed with help of a chart below.



Associated Industry- Academia partners





Achievements of the students

Various achievements and awards bagged by students in various competitions





Receiving award for developing interactive website for State Conference of KNM



Photo taken in connection with the visit of Mr. Anoop Ambika, CEO of Kerala Startup Mission.

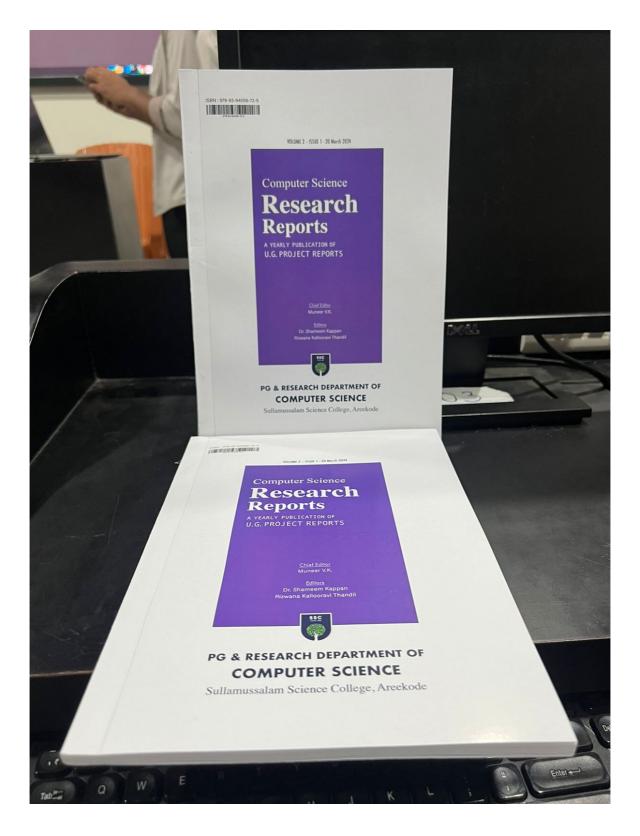


Receiving award from Vice Chancellor of Calicut University during Achievers honoring Ceremony.



Industrial visit to the Department of Computer Science and Engineering, Osmania University, Hyderabad.

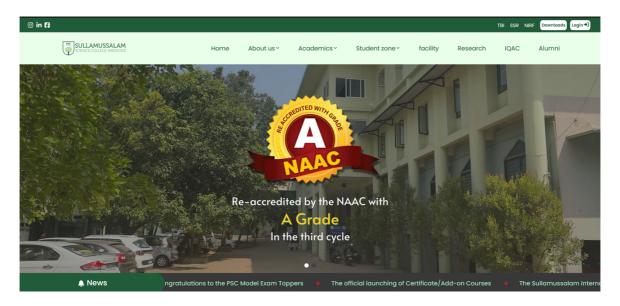
Sullamussalam Science College, Areekode



Websites and Projects

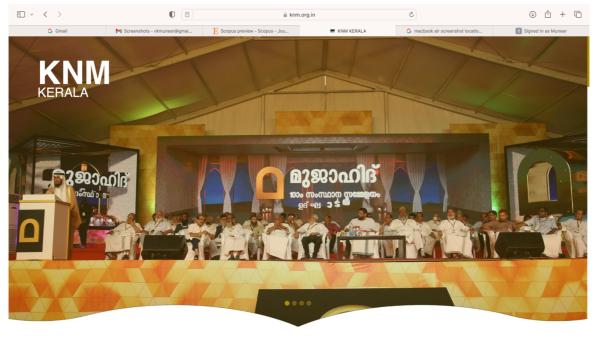
The students actively involved in design and development of few websites and web applications inside and outside campus. One among them is the website of college itself.

www.sscollege.ac.in.



The website of state conference conducted by Kerala Nadvathul Mujahidheen, is developed and maintained by the students of this batch. They used latest tools and technologies for this application. The website address is

www.knm.org

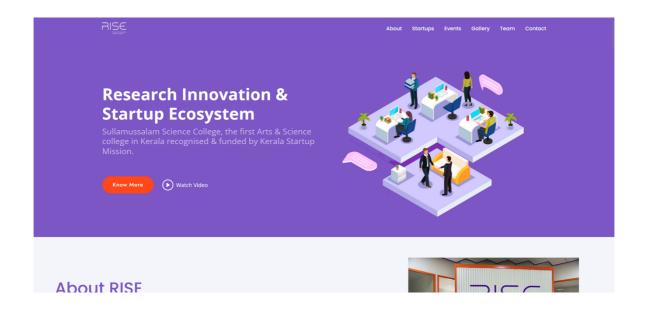


KNM

Home Leadership Departments Events Gallery Media - Contact

The website of RISE-TBI, a startup incubation center functioning in campus, developed by dotco, a startup company from IEDC of SS College, developed by students of this batch.

www.tbi.sscollege.ac.in



The website of department of History, Farook College, Kozhikode, is designed and developed by the students of Computer Science at SS college.

