

DEPARTMENT OF DATA SCIENCE
Value Systems and Best Practice of the Department

Best Practice of the Department



Title of the Practice

BIT2BYTES

*Bridging Ideas & Technology to Build Youth Talent for an Empowered Society
An Year-Round Intervention Programme*

Objectives of the Practice

1. To establish a year-round collaborative ecosystem integrating innovation, research, mentoring, and outreach for holistic student development.
2. To strengthen technical expertise, interdisciplinary learning, and employability through innovation-based assessments, project exhibitions, and IPR.
3. To instill societal awareness of Artificial Intelligence, Cybersecurity, and digital literacy through structured extension activities, and to engage students in social responsibility.
4. To institutionalize personal student development as a core academic and developmental practice, with structured tracking and continuous improvement.
5. To align student growth with the larger goal of societal empowerment, thereby bridging academic innovation with community impact.

The Context

The pace of technological advancement necessitates higher education institutions to reimagine their pedagogical practices. Students must evolve into innovators, researchers, and responsible citizens, prepared not only to contribute to industry but also to society at large. At the same time, schools, educators, and parents require awareness about digital literacy and ethical technology usage to keep pace with a rapidly changing world.

BIT2BYTES, a year-round student intervention programme based on the concept of Student Development and Societal Contribution, was conceptualised by the School of Sciences, CHRIST (Deemed to be University), Pune Lavasa Campus, to address these twin challenges. The name captures the journey from **small ideas (bits) to impactful outcomes (bytes)**, reflecting how incremental sparks of creativity grow into meaningful academic and societal contributions. Unlike standalone activities, BIT2BYTES is a comprehensive umbrella initiative, integrating student research, mentoring systems, project exhibitions, DSA engagements, innovation events, and outreach programmes into a single, year-round intervention.

The Practice

The department integrates research, student innovation, outreach, and mentorship to ensure that every academic activity contributes to **student development, innovation for good, and societal empowerment**.

The overarching outcome of BIT2BYTES is the holistic transformation of students into technically competent, research-oriented, and socially responsible leaders who bridge academic innovation with societal empowerment.

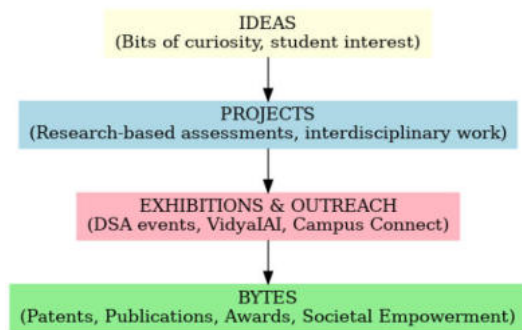


Figure: Outcomes of the BIT2BYTE Intervention

BIT2BYTES unifies a diverse range of activities and achievements under one banner:

- **Campus Connect & VidyaIAI:** Faculty and students extend knowledge-sharing sessions to schools and other institutions. VidyaIAI focuses on AI and cybersecurity awareness, sensitizing school students, teachers, and parents about responsible technology use.
- **DSA (Data Science Association) Activities:** Weekly Expert Talks, Ideathons, and Competitions. Expert Talks bring industry professionals and academicians to share insights on emerging trends. Ideathons challenge students to design innovative solutions, while Competitions foster peer learning and healthy competition.
- **Research & Innovation:** Students are encouraged to pursue research-based assessments, and do prototyping as part of their assessment components. Research publications and innovation-based coursework ensure that creativity is embedded in the curriculum. Students undertake multi-course integrated projects, exhibited at Project Exhibitions every semester
- **Student Mentorship:** The Mentoring App, menteezy.christuniversity.in is used for continuous mentoring purposes, and monitoring of student progress and transformation is done through the same.
- **Innovation Events:** Dedicated forums to stimulate idea generation, entrepreneurship thinking, and solution design.

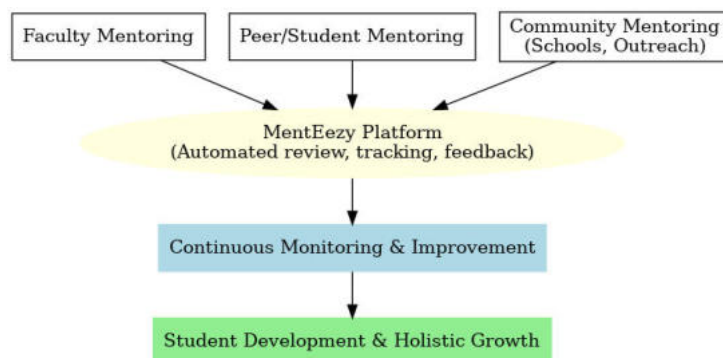


Figure: Student Development as an outcome of BIT2BYTE Intervention

Mentor Information

Name of the Mentor

:

VIJAYALAKSHMI S

Department

:

School of Sciences (Data Science)

Basic Information

Name of the Mentee

:

TANISHQ SAINI

Reg. No.

:

24112518

Date of Birth

:

July 7, 2006

Gender

:

male

Address

:

A6 - 1803, Saviour Greenisle, Crossing Republik, Ghaziabad , Uttar Pradesh - 201016

Program & Batch

:

2024 - 2028-Bachelor of Computer Applications (BCA/Honours/Honours with research)-School of Sciences (Data Science)

Contact Phone

:

8527930337

Email

:

tanishq.saini@bcah.christuniversity.in

Figure: Student Profile as part of the BIT2BYTES Intervention

Achievements			
Type	Date	Description	Document
Other achievements	June 7, 2025	MERITORIOUS ACADEMIC SCHOLARSHIP	View
Internship/Project	Sept. 5, 2025	Completion Letter	View
Participation/Winning Outside Campus Competitions	Jan. 17, 2025	Went to ISBM To play esports event of BGMI	No document
Other achievements	Nov. 19, 2024	Collaborated With GRED officials to Solve real live problem for Blind Girls	No document
Other achievements	Nov. 19, 2024	Went to NFBM Jagriti School for Blind Girls for Interacting with them and slove some of there problem	No document
Other achievements	Jan. 21, 2025	Meet the Public Relations and Executive Assistant of CEO of Geeksofgeeks	No document
Volunteering of Events	Nov. 11, 2024	State Level Badminton championship for specially abled student organized by Special Olympics Bharat with Inclusiverse.	No document
Other achievements	Jan. 3, 2025	Achieved 98/100 in C++ for Semester 1	No document
Participation/Winning In Internal Fests and Competitions	Jan. 25, 2025	Participated In StepUp for Alumni Day	No document
Participation/Winning Outside Campus Competitions	Feb. 22, 2025	Hackverse In Kristu Jaynti	No document
Participation/Winning Outside Campus Competitions	Feb. 18, 2025	MUN UNSC Delegate	No document

Figure: Student Achievements and Progress Tracking as part of the BIT2BYTES Intervention

Achievements					13
DATE	TYPE	DESCRIPTION	DOCUMENT	ACTIONS	
Oct. 6, 2024	OTHER ACHIEVEMENTS NONE	Performed a Nukaad Natak with Inayat in Darpan	View	Approve	Reject
Aug. 17, 2024	OTHER ACHIEVEMENTS NONE	Part of first class track	View	Approve	Reject
Aug. 3, 2024	OTHER ACHIEVEMENTS NONE	Part of SWO theatre	No Document	Approve	Reject
Aug. 15, 2024	OTHER ACHIEVEMENTS NONE	Act on Theatre Drama on 15th August, 2024 with SWO Theatre	View	Approve	Reject
Feb. 9, 2025	VOLUNTEERING OF EVENTS NONE	Volunteer For an event Heracles Of Lavasa	View	Approve	Reject
Feb. 9, 2025	OTHER ACHIEVEMENTS NONE	Part of Organizing Committee of Heracles Of Lavasa	View	Approve	Reject
Feb. 9, 2025	PARTICIPATION/WINNING IN INTERNAL TESTS AND COMPETITIONS NONE	Participated in the 5km Megamarathon event in Heracles of Lavasa	View	Approve	Reject
Feb. 19, 2025	PARTICIPATION/WINNING OUTSIDE CAMPUS COMPETITIONS NONE	Participated in MUN in Christ University Central Campus Bangalore	View	Approve	Reject
Oct. 15, 2024	OTHER ACHIEVEMENTS NONE	Selected as the president of the reader's club	View	Approve	Reject
Sept. 21, 2024	VOLUNTEERING OF EVENTS NONE	Volunteered for Book Review Competition with the part of Reader's Club	View	Approve	Reject
Nov. 11, 2024	VOLUNTEERING OF EVENTS NONE	Volunteering for an event Organised by Inclusivers and State OLYMPICS Bharat	View	Approve	Reject
Nov. 24, 2024	VOLUNTEERING OF EVENTS NONE	Volunteering for an Event Sportalytics	View	Approve	Reject
Nov. 24, 2024	PARTICIPATION/WINNING IN INTERNAL TESTS AND COMPETITIONS NONE	Selected as extra player for cricket in Sportalytics	View	Approve	Reject

Figure: Approval Process of Student's Contribution as part of the BIT2BYTES Intervention

The objective is to ensure that the students must be prepared not only with technical expertise but also with the capacity to innovate, research, and apply knowledge responsibly in societal contexts. The following actions are applied as part of the BIT2BYTES Intervention, to ensure this:

- **ACTIVITIES / MENTORING / INTERVENTIONS THROUGH DSA:**
 - BIT2BYTES has embedded research-based components into assessments, motivating students to contribute to academic and professional communities.
 - Weekly DSA activities are conducted for enhancing student capabilities.
 - A pool of students are chosen based on their current level of contributions for engagement initiatives and selective opportunities.
- **ACADEMIC ACTIVITIES AND INNOVATION:**
 - CHRIST InfoTech mentors constantly engage with students for projects, such that industry-like exposure is experienced by selected students.
 - Every semester, students undertake interdisciplinary projects that integrate concepts from multiple courses. These culminate in Project Exhibitions where solutions are showcased before peers, faculty, and external stakeholders.
 - Ideathons: Platforms for students to design innovative solutions to real-world challenges, thereby enhancing critical thinking and analytical skills. Hackverse is such a competition that is conducted.
- **SOCIETAL ENGAGEMENT:**
 - VidyaAI delivers targeted sessions to school students, teachers, and parents on AI literacy and cybersecurity. Campus connect initiatives bring in peers from other institutions for various sessions taken by our students.
 - Students engage in outbound mentoring by guiding schoolchildren during Science Day project preparations. This fosters creativity and curiosity among school students, while cultivating leadership, empathy, and responsibility in university mentors.

Evidence of Success

BIT2BYTES positioned the department as a hub for innovation and outreach. It strengthened inter-institutional collaboration, amplified research outputs, and created a sustainable system where every idea, however small, contributes to the empowerment of society.

The BIT2BYTES programme demonstrates success by guiding students through three progressive stages. First, it promoted self-development, leading students from initiatives into Data Science Association activities, where they join ideathons, competitions, expert talks and mentoring programmes. It fostered peer engagement, encouraging peer learning and collaboration through structured peer mentoring and knowledge-transfer sessions. It extended to societal engagement via inter-institutional sessions and awareness workshops on AI and cybersecurity, digital literacy programmes, and mentoring school students on project work, thereby promoting responsible AI use and community empowerment

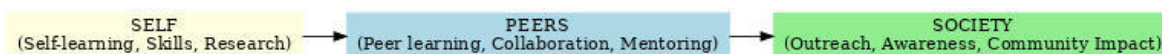


Figure: Outcomes of the BITS2BYTES Intervention

- **Enhanced employability:** Project exhibitions and interdisciplinary problem-solving have boosted student confidence and industry readiness.
- **Positive outreach:** VidyalAI has improved digital literacy and cybersecurity awareness among school students, parents, and educators. The societal engagement also gave deeper understanding of AI, cybersecurity, and ethical technology usage. The process nurtured leadership, empathy, and pedagogical skills while reinforcing their own academic knowledge. Around 1000+ direct beneficiaries were there as part of the VidyalAI, Campus Connect, and other societal intervention programmes where the students were leading the activities. Campus Connect led the department into more MoUs, and student visits for value added courses and other short term training programmes.
- **Research output:** BIT2BYTES has embedded innovation components into assessments, motivating students, especially through exhibition of projects and other products that they develop. A growing culture of student publications co-authored with faculty members. With student collaboration, 30+ patents filed, 70+ conference presentations, and 10+ best paper and research work awards by students from the inception, in 2023.
- **Student leadership:** Mentorship initiatives and student-led training have built communication and leadership skills. Strong student participation in weekly DSA activities and ideathons.
- **CHRIST InfoTech,** which was an embedded unit of the Department of Data Science, became the campus level Research and Development Centre. The centre operates with deep ambition and a clear mission in Information Technology and Data Science, which helps in better branding, increased revenue generation, and student involvement.
- **Alumni Network:** The previously mentored students, who were actively involved in the DSA activities, are currently working or proceeding with their career building at reputed institutions across the globe. To name a few, the recent batches' alumni currently are at Google, Microsoft, Oxford University, London School of Economics, ISRO-DRDO, and such other reputed institutions.

BIT2BYTES stands as a best practice of the School of Sciences. It reflects a commitment to transforming classroom knowledge into innovation, research, and societal awareness. By leveraging platforms such as DSA, VidyalAI, MentEezy, and interdisciplinary project exhibitions, the initiative nurtures students into innovators, mentors, and socially responsible citizens. Ultimately, it ensures that each bit of creativity grows into a byte of societal transformation

Problems Encountered and Resources Required

Time constraints within the academic calendar limited the scope for extensive outreach and research activities. Budgetary limitations restricted resources for patent filing, innovation events, logistics, and the development of dedicated digital platforms. Faculty and students also required additional time for mentoring and project preparation alongside curricular commitments. Greater financial allocation, extended timeframes, and supplementary human resources would enable the initiative to expand its reach, sustain innovation, and enhance societal impact.

- Time constraints in balancing curricular activities with outreach and innovation initiatives.
- Logistics for outreach in multiple states of the country.
- Variation in student readiness necessitating continuous mentoring; the need for continuous mentoring to bring all students to a uniform level of preparedness.

Link to the Best Practices on Department Webpage

(Under every programme, the Best Practice is displayed)

<https://lavasa.christuniversity.in/courses/ODMy#>

Posters of Different Initiatives under BIT2BYTES

