



# The Role of Artificial Intelligence on the Library at Vellore Institute of Technology, Tamil Nadu: A Case study

**M.Sithi Jagannara,  
Assistant Librarian,**

Veterinary College and Research Institute,( TANUVAS),  
Namakkal-2

**Abstract:**The Vellore Institute of Technology library serves a large student body and faculty, providing access to a vast collection of books, journals, digital resources, and research materials. With the increasing volume of information and the diverse needs of users, the library recognized the need to adopt AI technologies to remain relevant and efficient. In the era of digital transformation, the library at VIT has embraced artificial intelligence (AI) to enhance its services, improve user experience, and streamline resource management. This case study examines the specific AI initiatives implemented in the library and their impact on students and faculty.

## Introduction

Vellore Institute of Technology (VIT) is one of India's leading private engineering institutions, known for its commitment to quality education and research. In the era of digital transformation, the library at VIT has embraced artificial intelligence (AI) to enhance its services, improve user experience, and streamline resource management. This case study examines the specific AI initiatives implemented in the library and their impact on students and faculty.

## Background

The VIT library serves a large student body and faculty, providing access to a vast collection of books, journals, digital resources, and research materials. With the increasing volume of information and the diverse needs of users, the library recognized the need to adopt AI technologies to remain relevant and efficient.

### 1. AI Initiatives in the VIT Library

#### 1.1 Smart Cataloguing and Resource Discovery

The VIT library has implemented AI-driven cataloguing systems that utilize natural language processing (NLP) to improve metadata and enhance resource discovery. This system allows for better categorization of engineering and technology-related materials, making it easier for students and faculty to locate relevant resources.

**Outcome:** After the implementation, the library reported a significant increase in the usage of digital resources, with users noting that they can now find materials more quickly and accurately.

#### 1.2 AI-Powered Chatbot

The VIT library introduced an AI-powered chatbot named "VIT Library Assistant," which provides real-time assistance to users. This chatbot addresses common inquiries about library hours, available resources, and digital access, thus improving the overall accessibility of library services.

**Outcome:** The chatbot has successfully handled thousands of queries, resulting in reduced wait times for assistance and allowing library staff to focus on more complex user needs.

### 2. Data Management and Analytics

The library employs AI tools to analyze user interaction data and resource usage patterns. By tracking which materials are frequently accessed, the library can better understand user preferences and make informed decisions regarding collection development.

**Outcome:** This data-driven approach has led to targeted acquisitions, aligning the library's offerings with the interests and demands of students and faculty.

### 3. Learning and Development Initiatives

To foster AI literacy among students, the VIT library organizes workshops and training sessions that educate users on how to leverage AI tools for research and academic projects. These sessions cover topics such as AI applications in research and the use of library databases.

**Outcome:** Participants have reported improved research skills and a greater understanding of how to utilize AI technologies effectively in their academic work.

### 4. Ethical Considerations

The adoption of AI in the library also raises ethical considerations, particularly regarding data privacy and security. The VIT library has established policies to protect user data, ensuring transparency in how information is collected and used.

**Outcome:** By prioritizing user privacy, the library has fostered trust among patrons, encouraging them to engage more actively with AI tools.

### 5. Community Engagement and Collaboration

The VIT library has engaged in collaborations with local tech companies to develop customized AI solutions that meet the specific needs of engineering students. These partnerships focus on enhancing search capabilities and creating innovative digital tools tailored to the curriculum.

**Outcome:** Such collaborations have resulted in improved library services and provided students with insights into real-world applications of technology.

### Conclusion

The integration of artificial intelligence into the VIT library has significantly transformed library services, enhancing resource discovery, user support, and data management. By leveraging AI technologies, the library not only meets the evolving needs of its users but also fosters a culture of innovation and engagement within the academic community. As AI continues to advance, the VIT library is well-positioned to adapt and evolve, ensuring it remains a vital resource for education and research.

### References

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2. VIT Library Assistant. (2023). User Engagement and Feedback Report.
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