A Report on Guest Lecture
"Key Strategies for Writing Systematic Reviews"
Organised by
Department of Computer Science Engineering - Data Science
on 19.03.2025

Report Submitted by: Mrs. S. Manjula Prabakaran, Assistant Professor, Department of CSE (Data Science) .

Resource Person Details: Dr. G. Nakkeeran, Assistant Professor, Department of Civil Engineering, MITS.
Venue and Time: Seminar Hall A and 2:00 PM to 4:00 PM
Total Participants: 142 Students of III-year DS branch with 4 Faculties.
Report Received on 20.03.2025.
Mode of Conduct: Offline

Department of Computer Science Engineering - Data Science organized a Guest Lecture entitled " **Key Strategies for Writing Systematic Reviews**" on 19-03-2025. The session started by 2.00 PM with 142 participants which includes III year students of Data Science branch.

Dr. S. Kusuma, Head of the Department of Data Science, warmly welcomed the gathering and delivered an inspiring address. She emphasized the importance of focusing on high-quality research and motivated students to dedicate more time and effort to their academic pursuits. Dr. Kusuma encouraged students to actively participate by asking questions and engaging in discussions to make the session more interactive. She also urged them to publish their research work in reputable journals, stressing that academic publication is a vital step in advancing their careers and contributing to the academic community.

Mrs. S. Manjula Prabakaran, Assistant Professor in the Department of Data Science, introduced the esteemed resource person, Dr. G. Nakkeeran, a distinguished expert in research. Her introduction provided valuable context about Dr. Nakkeeran's professional background, enhancing his credibility and establishing his authority among the audience. Following her introduction, the session was handed over to Dr. Nakkeeran.

Dr. G. Nakkeeran, a renowned expert in the field of research, delivered a thought-provoking lecture on "Key Strategies for Writing Systematic Reviews." His address highlighted the essential strategies for conducting systematic reviews, emphasizing the importance of rigorous methods to ensure comprehensive, unbiased, and high-quality results. The speaker shared his valuable insights on several key aspects of systematic reviews, equipping the audience with practical tools and knowledge to enhance their research practices.

Key Topics Covered:

- **Overview of Systematic Reviews** – Exploring their significance and distinguishing them from traditional reviews.
- **Types of Articles, Publishers, and Indexing** – Understanding various article types, publishers, and indexing systems.
- **Literature Review Collection** – Effective strategies for conducting thorough searches to identify relevant studies.
- **Developing Research Questions** – Utilizing frameworks to craft focused, researchable questions.
- **Importance of Systematic Reviews** – Exploring why systematic reviews are crucial in research.
- **Methodology** – Approaches for qualitative and quantitative analysis in systematic reviews.
- **Study Selection** – Defining criteria for screening and choosing appropriate studies.
- **Data Extraction** – Techniques for systematically collecting and managing data from selected studies.
- **Tools and Frameworks** – Key software for data analysis, including **VOS Viewer** and **Bibliometrix (R package)**.
- **Quality Assessment** – Methods for assessing the quality and bias risk of included studies.
- **Data Synthesis** – Techniques for synthesizing data, including the use of meta-analysis.
- **Writing the Systematic Review** – Guidelines and best practices for structuring and presenting a clear, well-organized review.
- **Overcoming Challenges** – Identifying common obstacles and effective strategies to address them.
- **Ethical Considerations** – Upholding ethical standards throughout the process of conducting and reporting systematic reviews.

Outcome of the Session:

- **Effective Methods for Searching, Screening, and Selecting Studies**: Techniques for conducting comprehensive searches, and criteria for screening and selecting studies relevant to the review topic.
- **Adherence to Rigorous Standards for Data Extraction and Analysis**: Emphasizing the importance of unbiased, reproducible results by following strict data extraction and analysis procedures.
- **Practical Tips for Structuring and Presenting Systematic Reviews**: Guidance on how to organize and present systematic reviews in a clear and coherent manner, making research more accessible to a wider audience.
- **Understanding the Role of Systematic Reviews in Evidence-Based Practices**: A deeper understanding of how systematic reviews contribute to evidence-based practices across various academic and professional fields.

Overall, the session equipped students and researchers with essential tools and knowledge to conduct systematic reviews with greater confidence and academic integrity. This aligns with **SDG Goal 4: Quality Education**, promoting inclusive, equitable, and quality education to equip students with critical skills for research and evidence-based practices, contributing to global academic advancement.

At 4:00 PM, the session concluded with a vote of thanks delivered by Mr. Abdul Kalam, a second-year student from the Department of Data Science. The Department expresses its sincere gratitude to Dr. G. Nakkeeran for his invaluable insights and significant contribution to the session. Special thanks are also extended to the management for their unwavering support and to all attendees for their enthusiastic participation. The knowledge and inspiration gained from this session are expected to greatly enhance and shape the students' approach to research and writing reviews in their future careers.