



PRAGATI ENGINEERING COLLEGE

(AUTONOMOUS)

DEPARTMENT OF CSE (DATA SCIENCE)

DATA ANALYTICS CLUB

26-09-2025

A Report on the Data Analytics Club Activity

As part of the technical activities under the **Data Analytics Club** of the Department of CSE (Data Science), this event was conducted.

Name of the Event: Technical Seminar

Name of the Topic: Patterns to solve the leetcode problems

Name of the Speaker: V. Lakshmi pranathi(23A31A4413)

Date of the Event: 26-09-2025

Time of the Event: 10:00 AM TO 11:00 AM

Venue of the Event: CF – 7(TECH BLOCK)

A total of 60 students attended this event. All the students have actively participated in the event.

Brief write-up of the Event:

The Data Analytics Club organized an engaging session on “**Patterns to Solve LeetCode Problems**”. The session aimed to help students enhance their problem-solving skills by introducing structured approaches widely used in coding challenges and interviews.

The speaker began by highlighting the importance of **pattern-based thinking** in competitive programming and real-world problem-solving. Students were guided through **three key approaches** with live demonstrations and Python examples:

1. Prefix Sum Approach

- Building prefix arrays to answer subarray sum queries in $O(1)$ time.
- Real-world applications in cumulative data analysis.

2. Two Pointer Approach

- Efficiently solving problems by using two indices moving in the same or opposite directions.
- Applications in palindrome checking, pair/triplet sum problems, and sliding window optimizations.

3. Sliding Window Technique

- Optimizing problems involving subarrays and substrings.
- Covered both **fixed-size** and **variable-size windows** with examples such as finding maximum subarray sums and longest unique substrings.

HIGHLIGHTS AND KEY TAKEAWAYS:

- Pattern-based thinking in coding and real-world problems
- Prefix Sum Approach for efficient subarrays
- Two Pointer Method for palindromes & pair sums
- Sliding Window Technique to optimize subarrays/strings
- LeetCode practice with interactive Q&A



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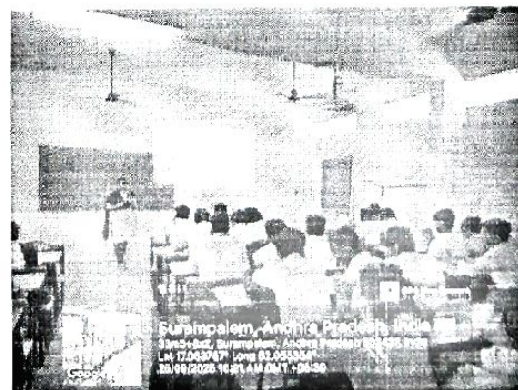
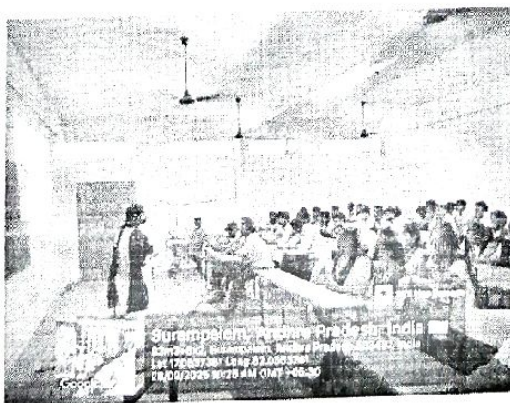
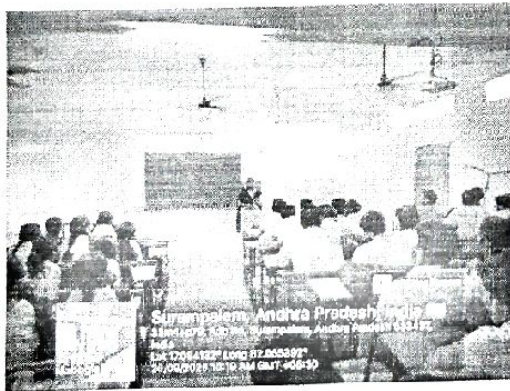
POST-EVENT FEEDBACK:

Participants found the session highly informative and engaging, especially those new to problem-solving patterns and coding strategies. The practical guidance on using Prefix Sum, Two Pointer, and Sliding Window techniques to solve problems was well appreciated. The session helped demystify algorithmic approaches, making them accessible and valuable for academic projects, coding interviews, and real-world applications.

Questions Raised by Students:

- How to identify which pattern to use for a given problem
- Steps to implement Prefix Sum efficiently
- Handling edge cases in Two Pointer problems
- Optimizing Sliding Window for large datasets
- Tips for practicing and selecting problems on LeetCode

PHOTOGRAPHS FROM THE EVENT:



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