A REPORT ON

CodeMorph: Accelerating Your Coding Journey

Date: 24th February 2025
Venue: Apple Lab, B - Block, Silver Oak University

CodeMorph: Accelerating Your Coding Journey

Introduction:

"CodeMorph: Accelerating Your Coding Journey", organized under the initiative **TechCAFFEINE**, by **Silver Oak University IEEE Computer Society Student Branch Chapter**, provided an insightful exploration of time complexity analysis, searching & sorting algorithms and mathematical principles. Attendees gained enhanced analytical thinking, a structured approach to tackling algorithmic challenges as well as a newfound appreciation for the role of computation in solving complex real-world problems.

About the session:

Date: 24th February 2025
Time: 01:30 P.M. - 02:30 P.M.
Venue: Apple Lab, B - Block, Silver Oak University
Participants: 20

The discussion began with an in-depth exploration of searching and sorting algorithms, focusing on linear search and binary search algorithms. A comparative analysis of various sorting techniques was conducted, evaluating their efficiency and real-life applications. Participants explored the time complexities of linear search, binary search, as well as hashing, recognizing their applicability in different scenarios. The session delivered a clear perspective on algorithmic efficiency, helping participants evaluate how different approaches perform under varying conditions.

Fundamental mathematical principles such as probability and logarithms were also discussed, as these play a crucial role in algorithm optimization and computational efficiency. Recursion was also examined, emphasizing its importance in algorithm design while breaking down complex problems.

A key highlight of the discussion was a case study on the coin toss betting game, which demonstrated the negative aspects of betting from both a computational and ethical perspective. The study analyzed the statistical odds of betting games and illustrated how they often result in financial loss rather than gain. This discussion aimed to raise awareness about the risks of gambling by using mathematical analysis to predict unfavorable outcomes.

The session concluded with an interactive brainstorming quiz, allowing participants to test their knowledge, reinforce key concepts, and apply their learning in problem-solving exercises. Participants were encouraged to use logical reasoning and critical thinking skills.

Conclusion:

The session provided an engaging, insightful discussion that empowered attendees with valuable problem-solving skills while enhancing their algorithmic expertise. It explored fundamental algorithmic concepts such as the principles of linear and binary search algorithms, alongside time complexity analysis. Essential mathematical concepts like probability, logarithms, and their role in computational efficiency were examined. The session nurtured collaboration, inspiring students to think critically while applying their knowledge to real-world coding challenges.

The success of this session had been greatly attributed to the guidance and support of Dr. Satvik Khara, Dean, School of Technology, Design and Computer Application; IEEE Senior Member; Chairperson, SIGHT, IEEE Gujarat Section; Chairperson, Technical Committee, Computer Society, IEEE Gujarat Section; Founding Member, Silver Oak University IEEE Student Branch.

Some glimpses of session:

The session kicking off with an exploration of searching and sorting algorithms
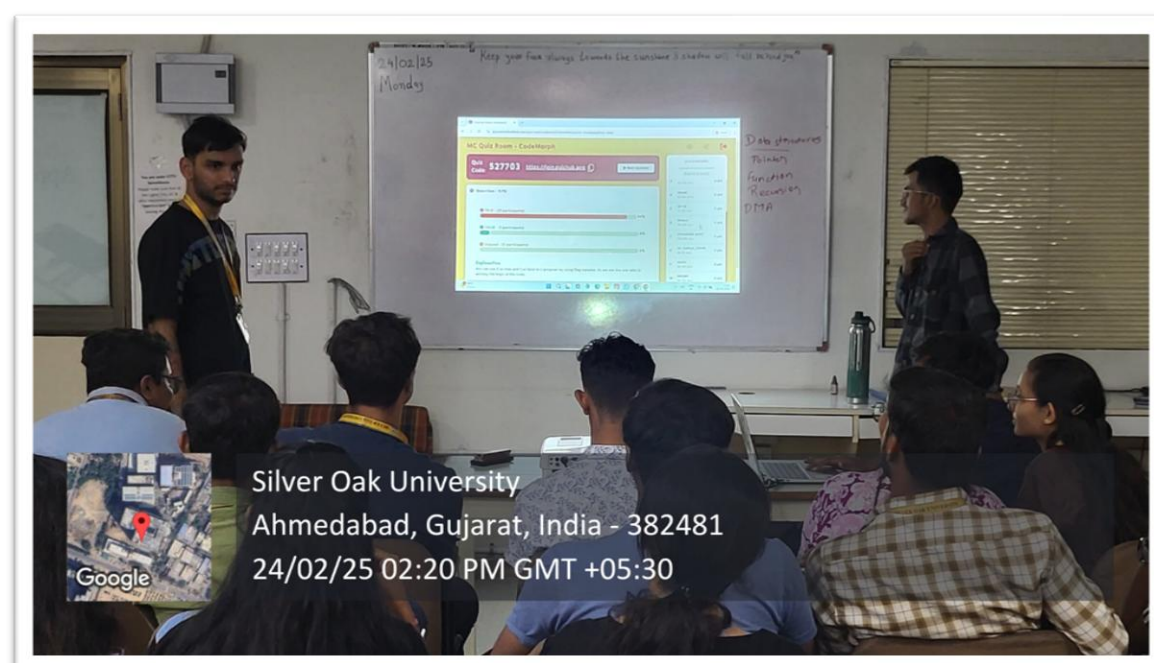
Participants engaging in an intriguing trivia to test their knowledge