



PARSHVANATH CHARITABLE TRUST'S

A. P. SHAH INSTITUTE OF TECHNOLOGY

Department of Information Technology

(NBA Accredited)



Expert Session: Algorithms in Action: From Theory to Real-World Applications

Name of College: A. P. Shah Institute of Technology, Kasarvadavali, Ghodbunder Road, Thane – 400615

Department: Information Technology

Date: 30/09/26

Participants:

Targeted Audience: Students of Second Year Information Technology.

Speaker Detail: Ms. Sonal Sonarghare is an Associate Data Scientist at Data Science Wizards, with a strong background in Computer Science and Data Science. Her areas of interest include AI/ML, Data Science, NLP, Geospatial Technology and real-world technology applications. She has contributed to research publications and industry-oriented projects, bringing valuable practical insights into the application of algorithms and data-driven technologies.

LinkedIn Profile of the Speaker: https://www.linkedin.com/in/sonal-sonarghare-a18b55192?utm_source=share_via&utm_content=profile&utm_medium=member_ios

Faculty Accompanied:

Ms. Anagha Aher

Dr. Sonia Aneesh

Ms. Sneha Dalvi

Aim of Event:

The session was organized to help Second Year students understand how concepts studied in Advanced Data Structures and Algorithms are applied to practical problems in real-world software systems, thereby bridging the gap between classroom theory and industry applications.

Ms. Sonal Sonarghare, Associate Data Scientist at Data Science Wizards, discussed several industry examples to demonstrate the importance of selecting appropriate data structures and algorithmic strategies while designing efficient software solutions.

The session included real-world discussions on Google user authorization and Netflix server load



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balancing using hash rings. These examples illustrated how advanced data structures and hashing-based approaches can support efficient processing and distribution of requests in large-scale systems. The concepts of load balancing and optimization were also discussed in the context of scalable computing environments.

Ms. Sonarghare explained the Branch and Bound algorithmic strategy and highlighted its real-time applications in solving complex optimization problems by systematically exploring the solution space while eliminating unsuitable alternatives.

Another important aspect of the session was the application of graph traversal techniques in cybersecurity. Students learned how Breadth-First Search (BFS) and Depth-First Search (DFS), commonly studied as fundamental graph algorithms, can be applied in cybersecurity-related scenarios and practical computing systems.

Glimpses of the event:



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GPS Map Camera



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opp. Hypercity Mall, Bhawani Nagar, Kasarvadavali,
Thane West, Thane, Maharashtra 400615, Thane,
Maharashtra 400615, India
Lat 19.268102° Long 72.967345°
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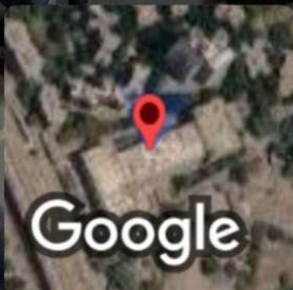
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