ENHANCING PERFORMANCE IN COMPUTER SYSTEMS BY PIPELINING CONCEPTS

Event No	AM002
Organizing Department	Artificial Intelligenceand Machine Learning
Associate Dept. | NSC	Artificial Intelligenceand Machine Learning
Date	07/10/2023
Time	02:00 PM to 04:00 PM
Event Type	Expert Talk
Event Level	Dept. Level
Meeting Medium	
Meeting Link	https://meet.google.com/crm-djzo-qhv
Total Participants	160
Industry Personnel	1
Faculty - Internal	1
Students - Internal	78
Other Participants	80

Related SDG

Resource Persons

Sl	Type	Name	Designation	Company	Email	Phone
1	Resource Person	Vaishnavi Gopalakrishnan	Software Consultant	AstraZeneca	krishvaishu2@gmail.com	xxxxxxxxxx

Involved Staffs

Sl	Name	Role
1	Kothai G	Coordinator
2	Karthikeyan S	Convenor

Outcome

The students have gained deeper understanding of how pipeline concepts work in computer systems, including the benefits and challenges. They also developed problem-solving skills related to optimizing computer system performance using pipeline techniques. This session provide insights into best practices for implementing pipelines in computer architecture. Real-world case studies and examples are presented, where the students were able to learn from practical experiences

Event Summary

The purpose of the session was to explore and deepen the students understanding of pipelining in computer systems, focusing on its applications, benefits, and challenges. The Industry expert Ms. Vaishnavi Gopalakrishnan started with the idea behind pipelining concepts. She also provided an in-depth introduction to pipelining, explaining its fundamental concepts and how it enhances the performance of modern computer systems. She shared insights into how pipelining is implemented in state-of-the-art processors, with a focus on practical applications and industry trends. She discussed the challenges that arise when designing complex pipelines and provided solutions to overcome them, drawing from recent research. The major key takeaways are students were able to gain the insights into addressing data hazards and control hazards, which is vital in pipeline design. They also discussed the Real-world processors for employing the multi-stage pipelines, allowing for more efficient instruction execution. The session enhances the students knowledge and skills in computer architecture and pipelining concepts. The session on 'Enhancing performance in computer systems by pipelining concepts' provided a valuable platform for the exploration and discussion of pipelining in computer systems. It enhanced students understanding of this crucial concept, showcased its and practical applications.

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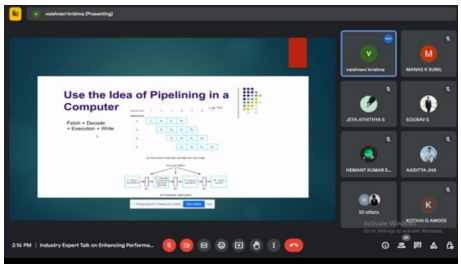

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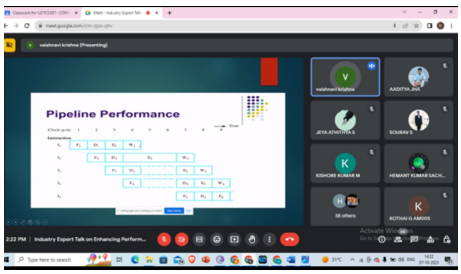

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