

A one-of-a-kind event
to build a collaborative
research agenda!

ML-RT-Agenda

Towards a research agenda for learning-enabled safety-critical real-time systems



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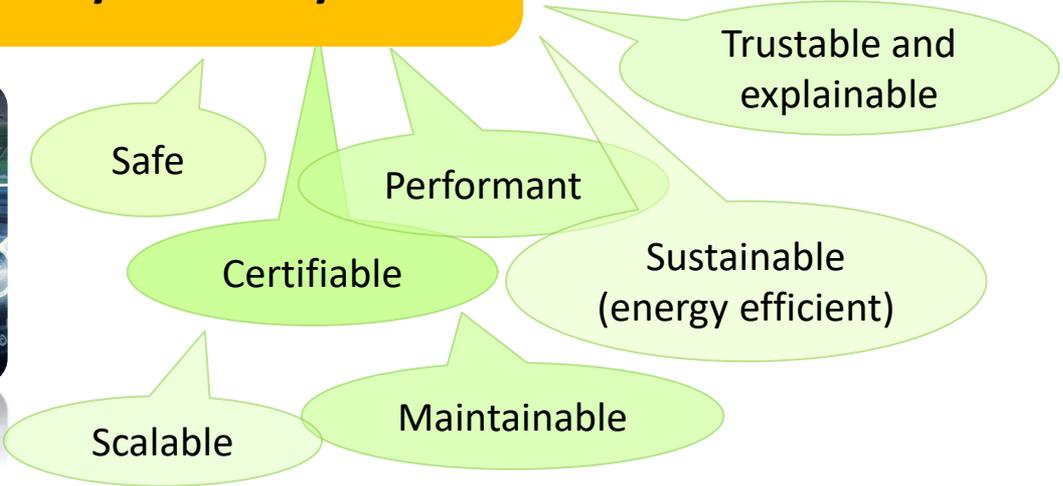


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<https://www.ecrts.org/ml-rt-agenda-workshop/>

Why ML-RT-Agenda, and why now?

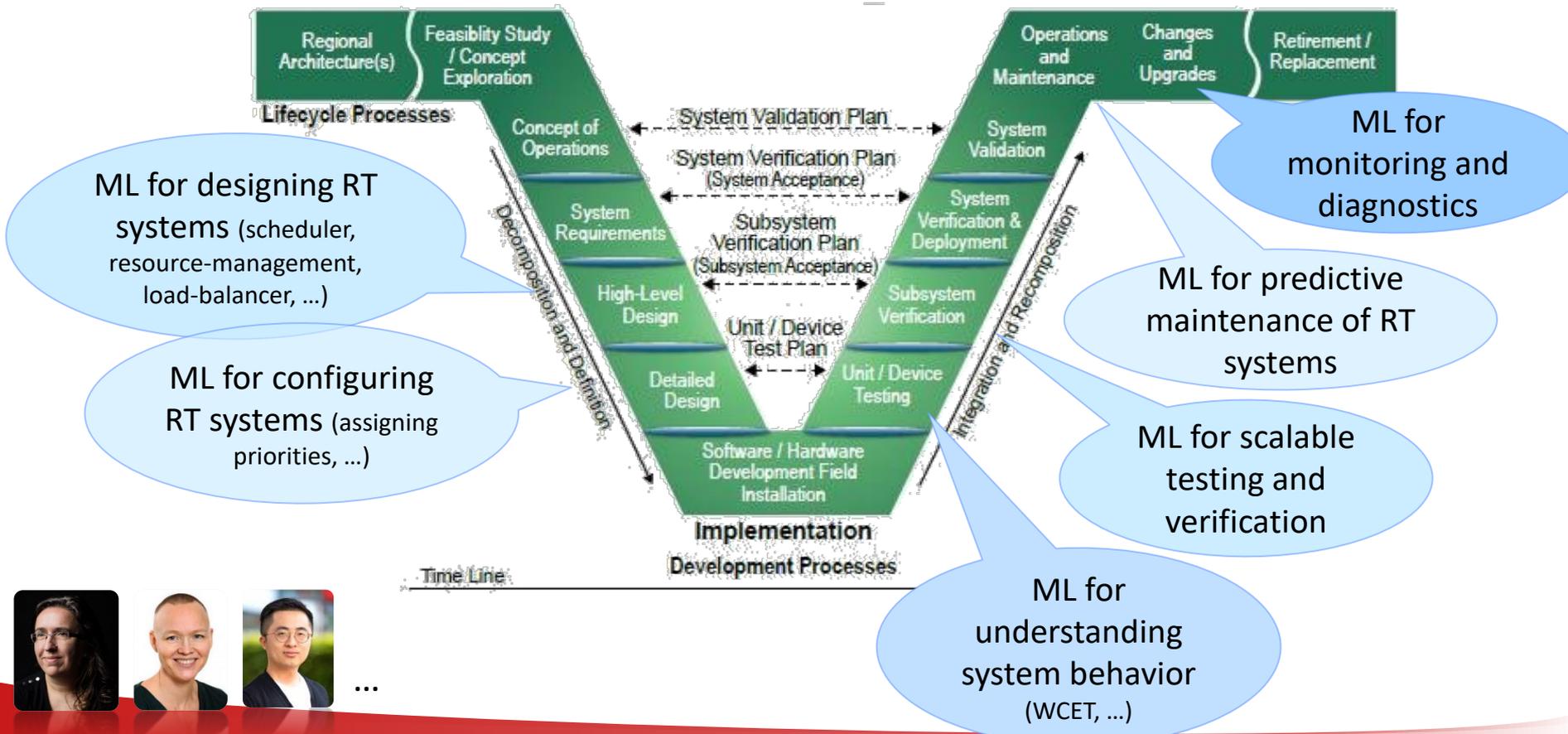
How can our expertise help designing learning-enabled safety-critical systems?



Why ML-RT-Agenda, and why now?

How can our expertise help designing learning-enabled safety-critical systems?

How can ML and AI technologies help us design better real-time systems?



Agenda: Today's keynotes



“A Roadmap for Real-Time Embedded AI”

9:00 – 10:00

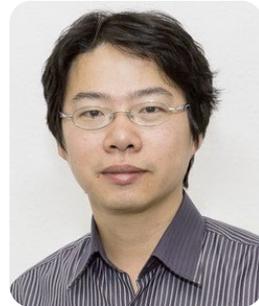
“Toward Predictable AI-Enabled Real-Time Systems”

13:30 – 14:30



Agenda: Today's speeches

Session 2 (10:30 – 12:00)		
10:30 – 10:40	Isabelle Puaut	Machine learning for timing analysis: the good, the bad and the ugly [a shorter version of her keynote at WCET'24]
10:45 – 11:00	Anna Friebe	Machine learning opportunities in design and scheduling of real-time systems
11:00 – 11:15	Mourad Dridi+ Yasmina Abdeddaim	Some thoughts on CNNs real-time execution on NVIDIA GPUs
11:15 – 11:30	Benjamin Lesage	ARP-6983 and the challenges of ML implantation for avionic systems
11:30 – 11:45	Jian-Jia Chen	Flexible, efficient and robust sensing with AI
11:45 – 12:00	Open discussions	
12:00 – 13:30	lunch	



Benjamin Lesage

Agenda: Today's speeches and the final session

Session 3 (13:30 – 15:00)		
13:30 – 14:30	Giorgio Buttazzo [keynote]	Toward predictable AI-enabled real-time systems
14:30 – 14:45	Alan Burns	Classification using IDK cascades
14:45 – 15:00	Kuan-Hsun Chen	Costly and unsafe? A good case for reinforcement learning
15:00 – 15:30	break	
Session 4 (15:30 – 17:00)		
15:30 – 16:45	Open discussions	
16:45 – 17:00	Conclusions and next steps	<ul style="list-style-type: none">• A summary of what we learned, found, discussed, ...• Plan of our next actions and events• Feedback:



Logistics

- Talks will be broadcasted on a **Microsoft Teams** link during the day.
 - No need to join the link for your talk.
- We plan to **record the talks** for those who aren't here
 - Let us know if you prefer to opt out
- At the end of the day, we can discuss what we can do with the videos. Maybe we can create a youtube channel for them, or just share them as files.

Coffee breaks

10:00 to 10:30

15:00 to 15:30

Lunch

12:00 to 13:30

Feel free to
share the link

Microsoft Teams link



Presentations

Open discussions and conclusions

- A summary of what we learned, found, and discussed
- Next steps
- Feedback

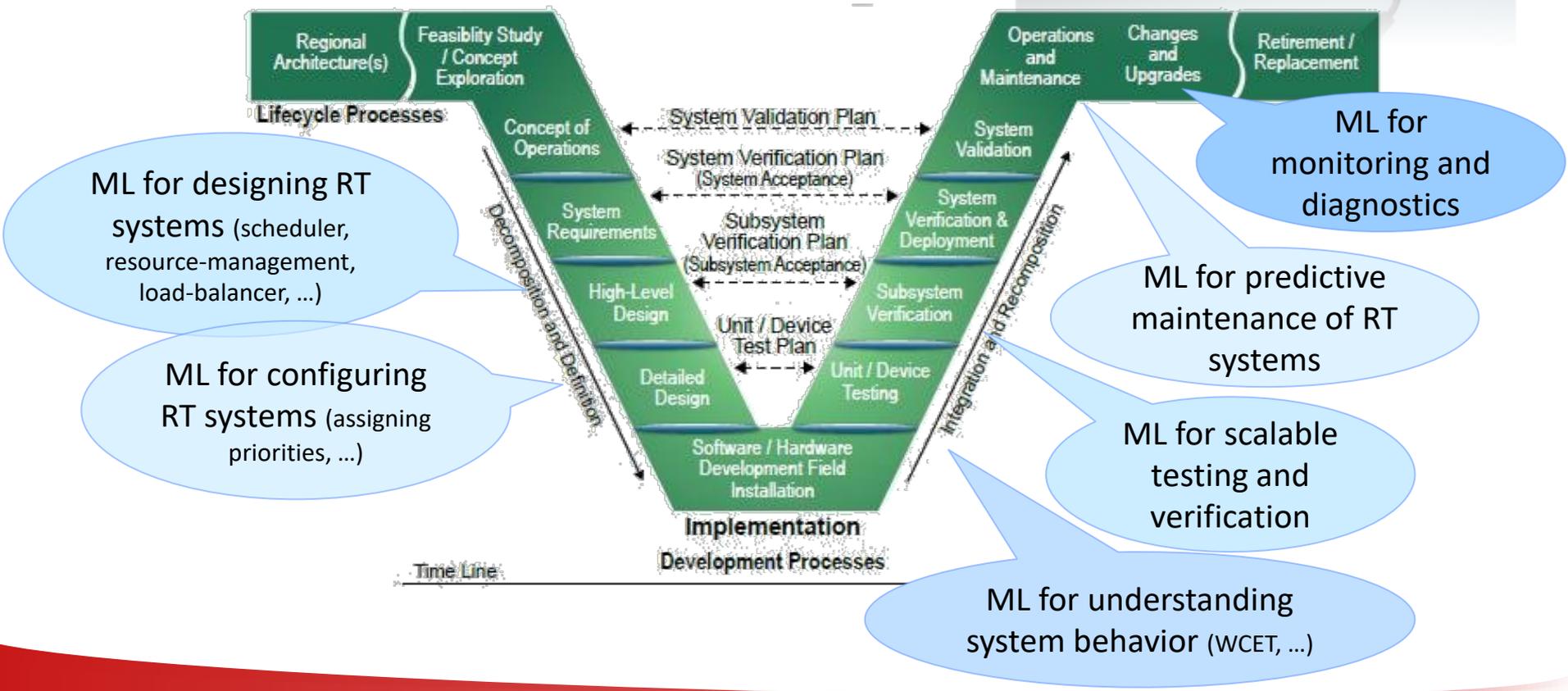


Open discussions



What topics do you think should be in our research agenda?
Which topics are more important or urgent?

An attempt to build a research agenda



Next actions

- The second event of ML-RT-Agenda will likely be at RTSS'2024

Workshop on Machine-Learning
Enabled Safety-Critical Systems
(WMC)

Next actions

- The second event of ML-RT-Agenda will likely be at RTSS'2024
- **We will prepare a report (and will ask you for more input)**

Moving towards a research agenda

Collecting our community's **past efforts** and giving a story to it

Collecting our community's **future roadmap** and giving a story to it

**Any suggestions?
Any wish?**



Thank You
For Attending!