Breaking Boundaries

Key Findings from the ADAPTED Research Group

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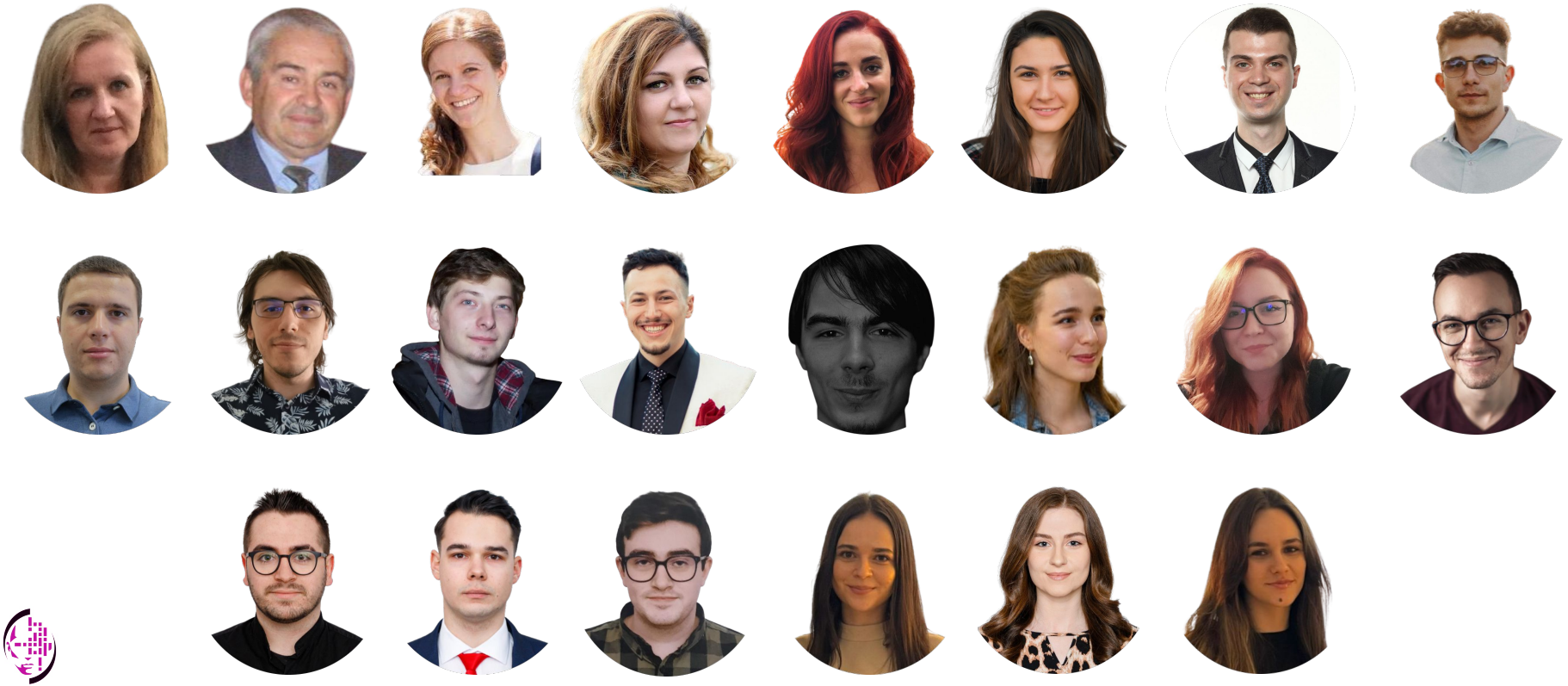
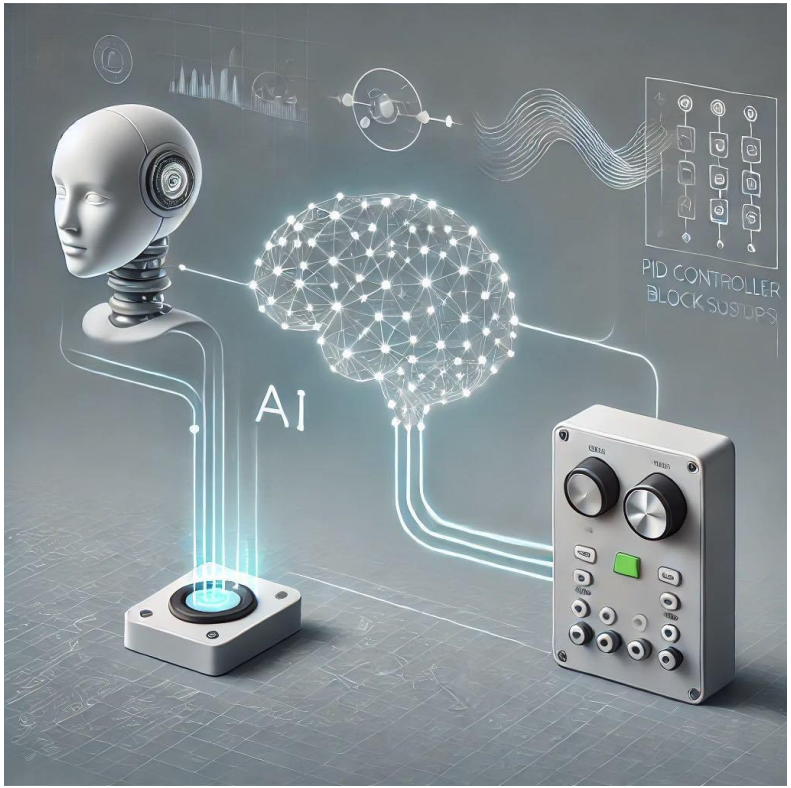
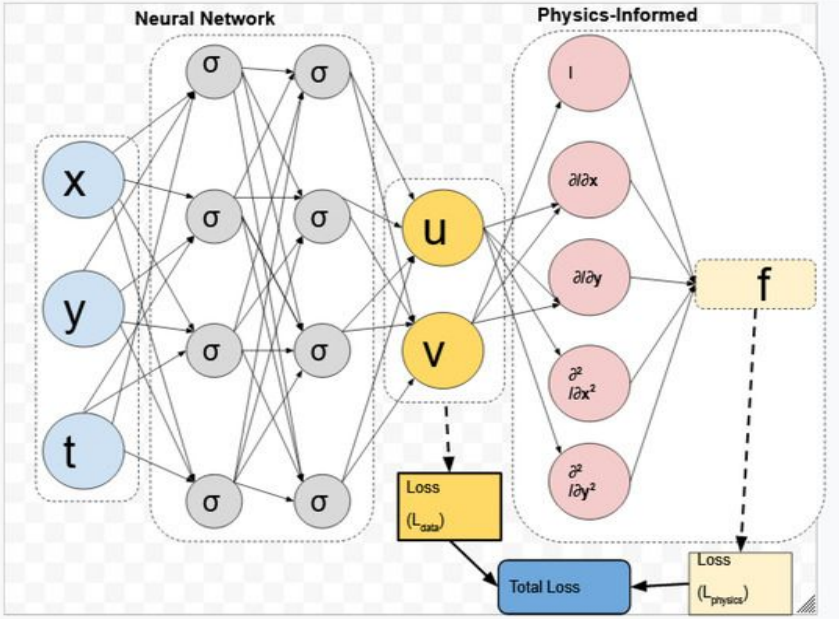
Our Team



AI synergy!

AI in Control





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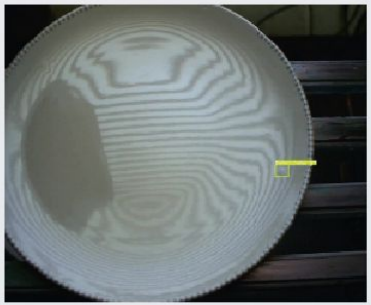
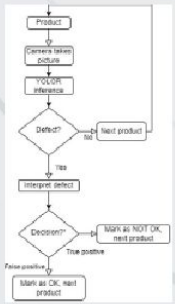
AI in Manufacturing

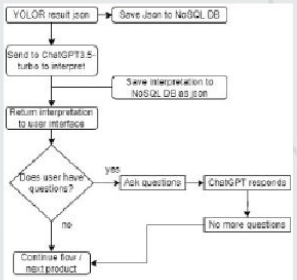




Result for training on different instances with GPUs on a cloud provider leader

Instance type	Batch-size	Train time per epoch(minutes)	Fitness time(minutes)	Ecost(USD)
INC6, 6vCPUs, 56GB, 1xK80	4	5:57	165	851
INC6, 6vCPUs, 56GB, 1xK80	2	10:04	1006	934
INC6, 6vCPUs, 56GB, 1xK80	1	15:42	1570	1458
INC12, 12vCPUs, 112GB, 2xK80	16	4:44	473	865
INC12, 12vCPUs, 112GB, 2xK80	8	5:30	550	1005
INC12, 12vCPUs, 112GB, 2xK80	4	6:45	675	1234
INC6v2, 6vCPUs, 112GB, 1xP100	1	MEMORY ERR	NO	NO
INC12v2, 6vCPUs, 224GB, 2xP100	6	6:11	618	2570
INC12v2, 12vCPUs, 224GB, 2xP100	4	6:48	680	2828
INC12xv2, 12vCPUs, 224GB, 2xP100	2	8:26	843	3506
INC6xv3, 6vCPUs, 112GB, 1xV100	1	14:19	1431	4457
INC12xv3, 12vCPUs, 224GB, 2xV100	6	6:06	610	3745
INC12xv3, 12vCPUs, 224GB, 2xV100	4	6:36	660	4052
INC12Sxv3, 12vCPUs, 224GB, 2xV100	2	8:11	818	5025
INC24adav4, 24vCPUs, 220GB, 1xA100	10	3:01	301	1853
INC24adav4, 24vCPUs, 220GB, 1xA100	8	3:24	339	2082
INC24adav4, 24vCPUs, 220GB, 1xA100	6	3:39	365	2000
INC24adav4, 24vCPUs, 220GB, 1xA100	4	6:30	650	2405
INC24adav4, 24vCPUs, 220GB, 1xA100	2	8:56	840	3192
INC24adav4, 24vCPUs, 220GB, 1xA100	1	13:23	1341	4961
INC48adav4, 48vCPUs, 440GB, 2xA100	64	1:55	191	1407
INC48adav4, 48vCPUs, 440GB, 2xA100	32	3:40	367	1967
INC48adav4, 48vCPUs, 440GB, 2xA100	16	3:21	335	2468

TABLE II: Table for results obtained on a leader in cloud services. All prices are Pay as you go with Ubuntu. One can get hefty discounts if one opts for a savings plan for 1 to 3 years. Discounts are up to 50%. Pricing details from their website, pricing page, in March 2023.



To determine the size of the defect in centimeters, we can scale the provided values by the ratio of 1 (as 40 centimeters) to the actual value.

Given that 1 unit in your data represents 40 centimeters, you can calculate the size of the defect as follows:

- Width in centimeters: 0.009395413 * 40 = 0.3758772 centimeters
- Height in centimeters: 0.012695953 * 40 = 0.5078312 centimeters

So, if 1 unit in your data represents 40 centimeters, then the defect has a width of approximately 0.376 centimeters and a height of approximately 0.508 centimeters.

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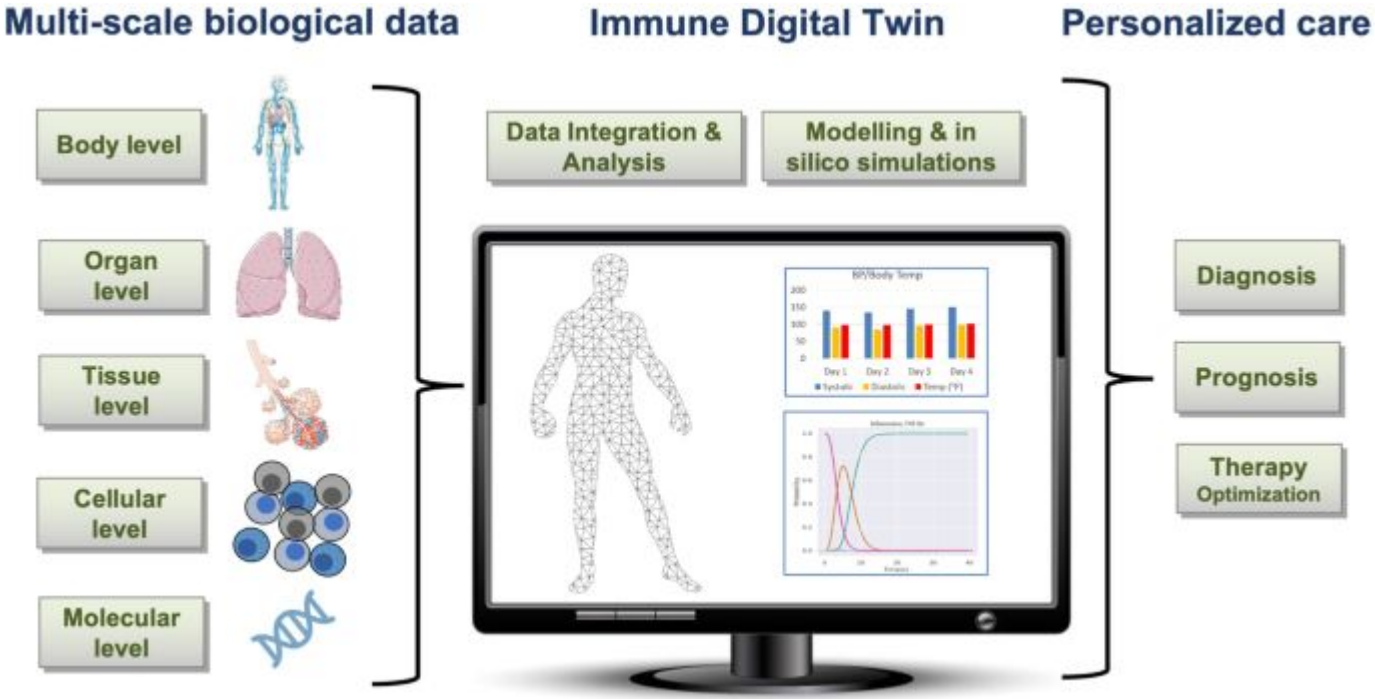
AI in Medical Applications



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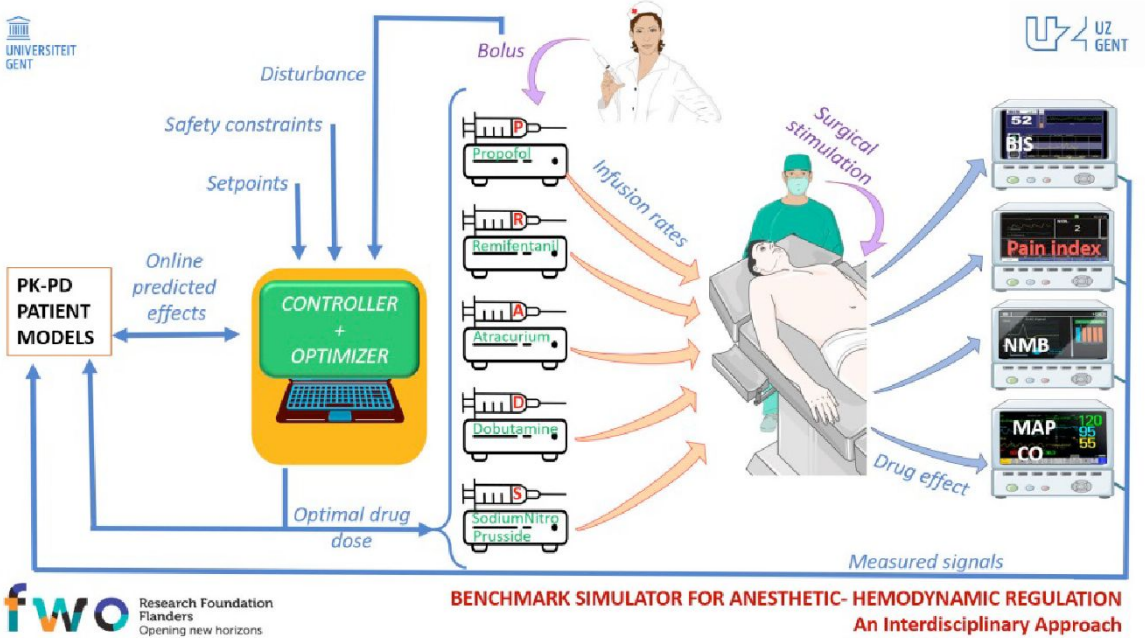
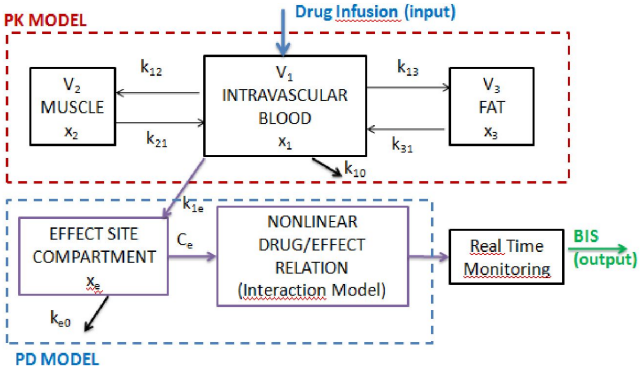
Anaesthesia Control





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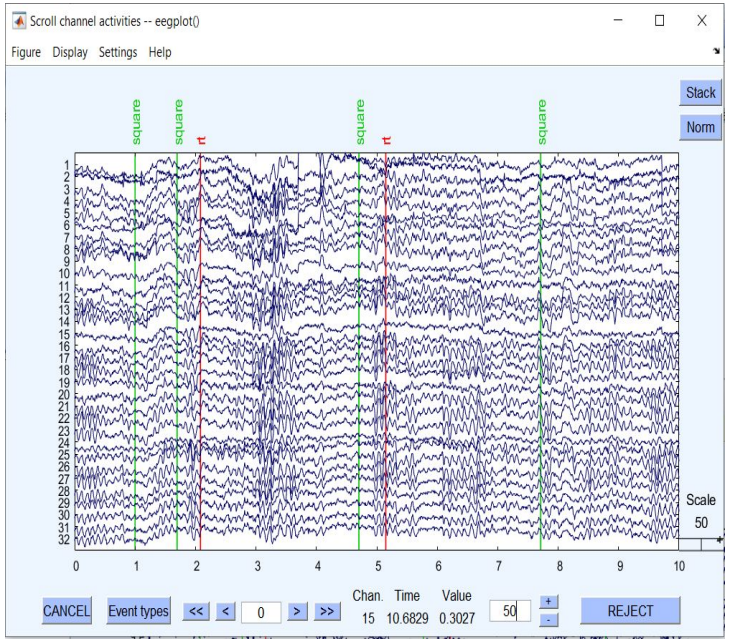

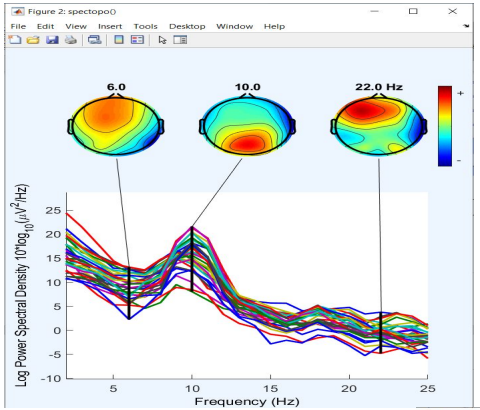

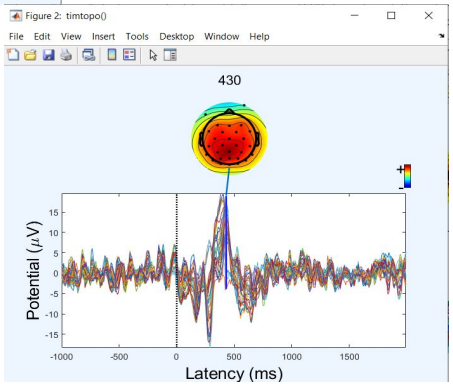

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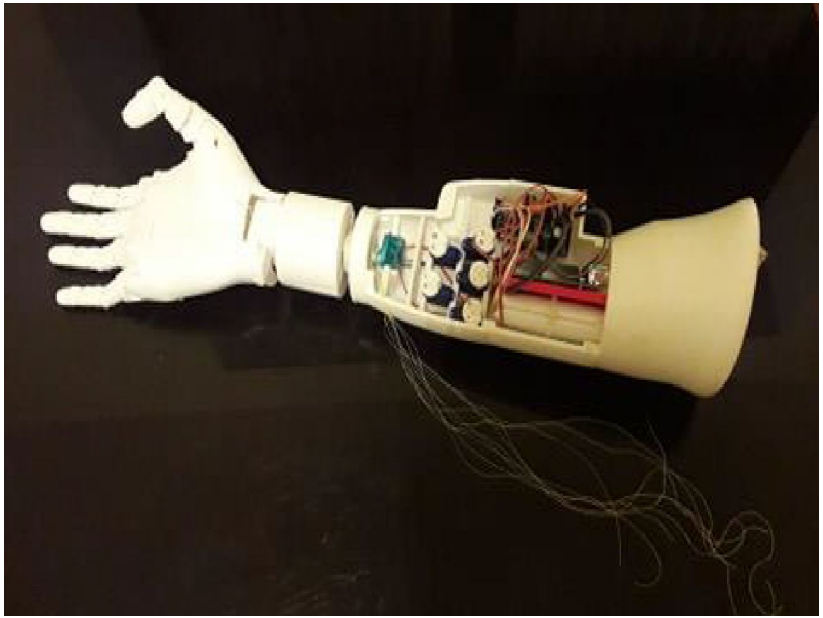
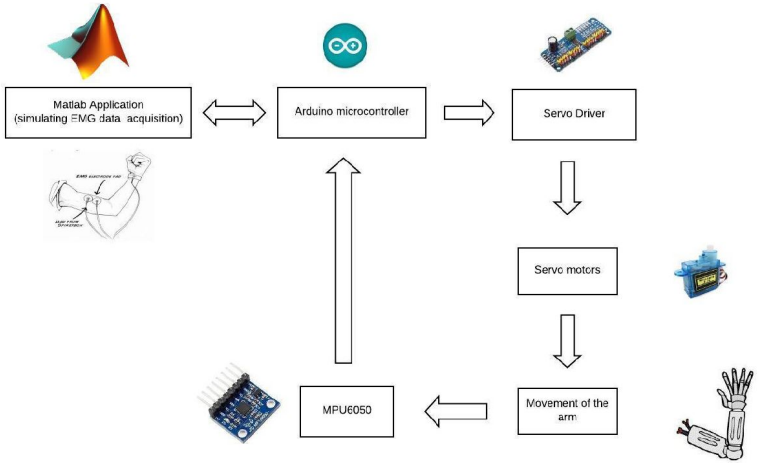
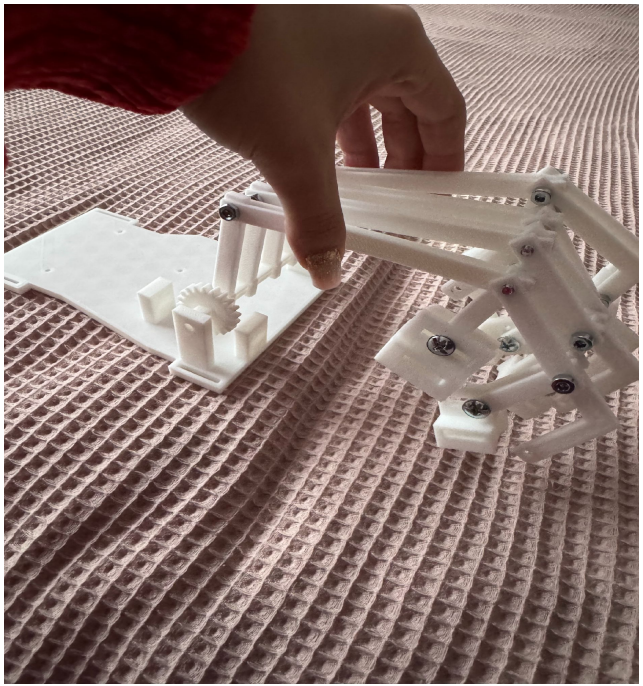
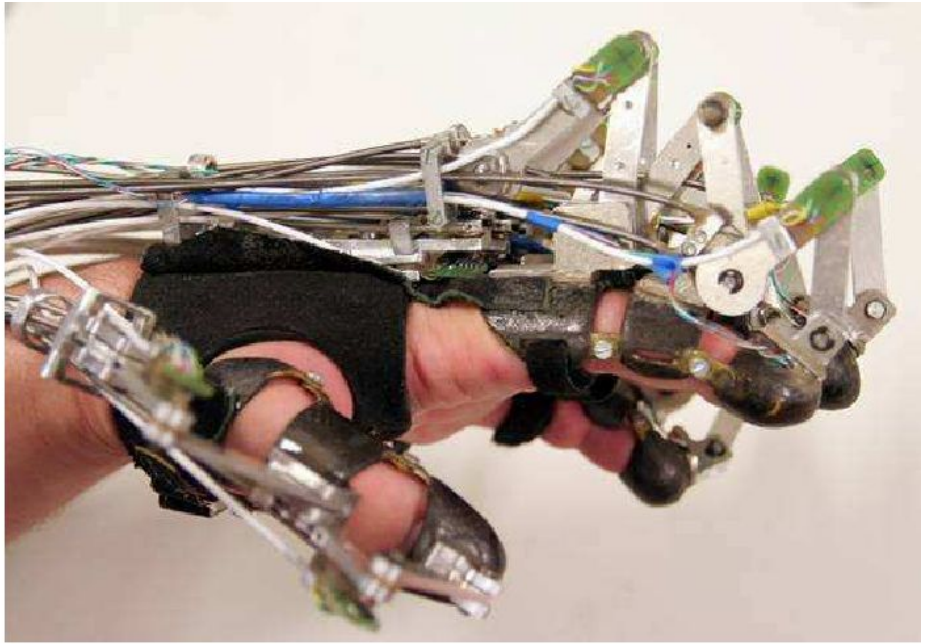


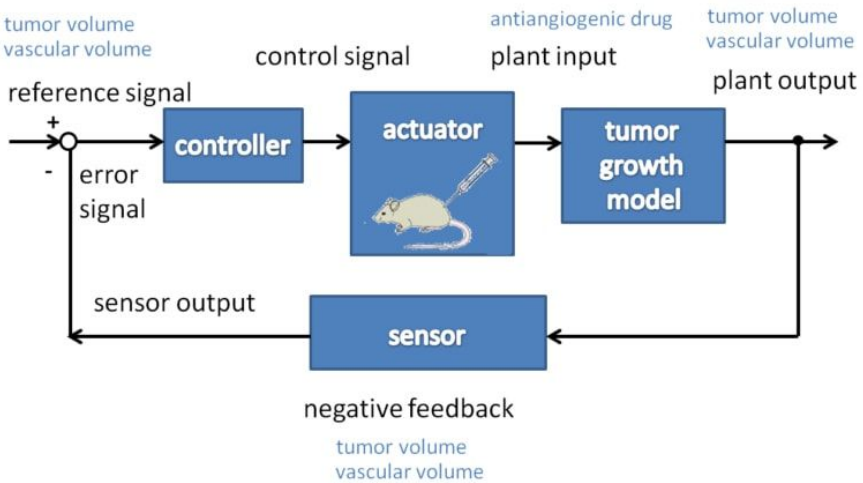


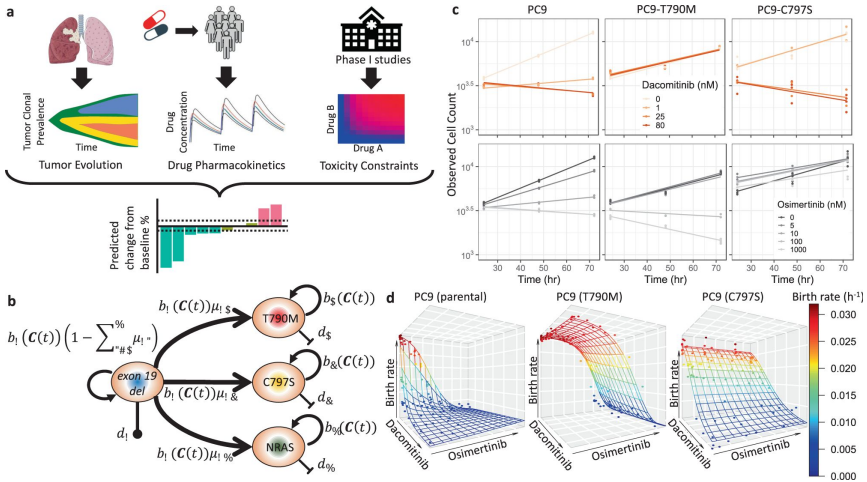
AI in Medical Applications





AI in Medical Applications





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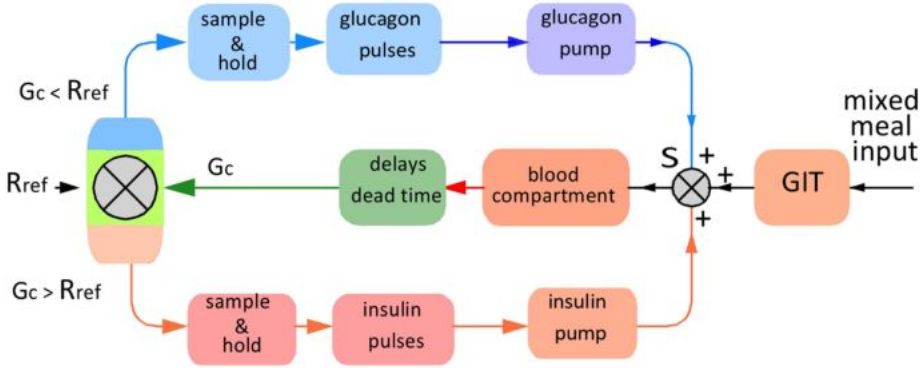

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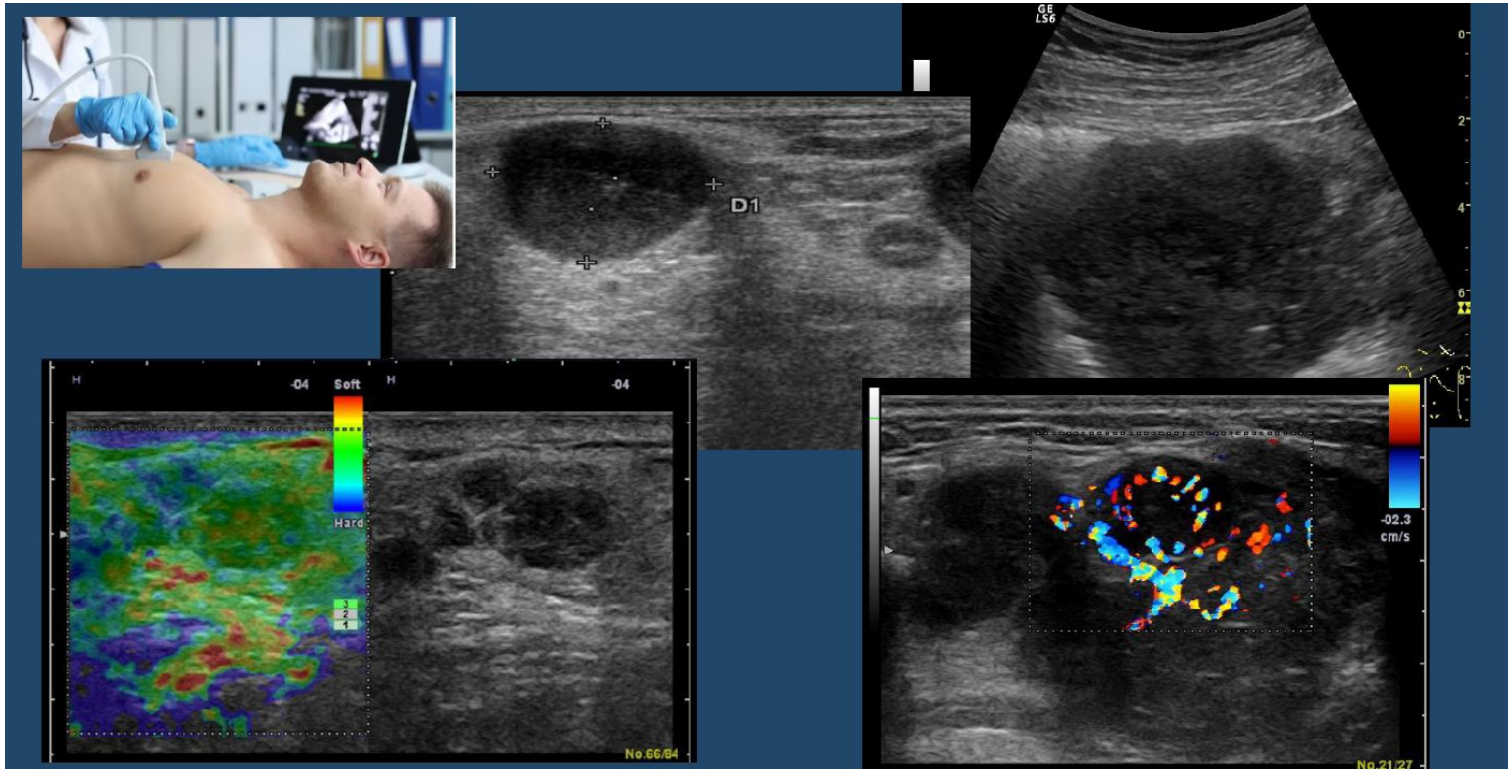

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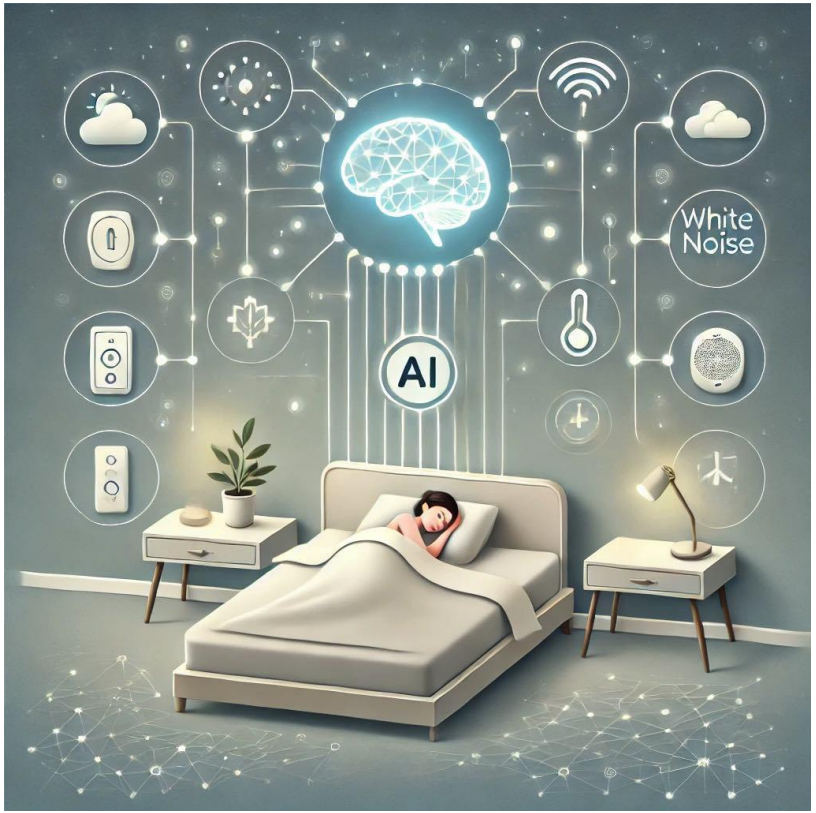
AI in Medical Applications

AI in Smart Homes



Significant Results – last 5 years

- > 100 research papers;
- 8 patent proposals and 1 patent;
- > 10 awards at international exhibitions of inventions;
- 10 national projects, 4 international projects;
- Significant solutions:
  - Monitoring, modelling and control of isotope separation processes;
  - Fractional order control strategies for time delay and MIMO processes.
  - Medical applications

Collaboration inquiry/offer

Open for **research collaborations, joint research proposals, knowledge transfer**

on Control Engineering, Personalized Medicine

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ADAPTED Research

EnTReC
Energy Transition Research Center

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