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# Computational Intelligence Architecture for Continuous Learning in Medical Centres

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In the early days of artificial intelligence (AI) during the 1950s, two primary approaches emerged. One was engineering-oriented, while the other focused on computational modeling of human decision-making processes, later termed “computational intelligence”, and is strongly determined by three fundamental time-constrained limitations: data, computation, and communication. Modern AI development emphasizes scaling data and computational resources, operating on the premise that machines are not bound by the constraints of limited data and computational capacity.

This work presents a Computational Intelligence Architecture used to support continuous learning processes and deployment of classification models within Medical and Research Centers on health data, and presents mechanism of communicating findings between these centers.

The architecture implements a distributed network of Agents that run containerized classification models on local medical data stored on Medical Center’s premises, display the obtained results locally for doctors’ decision making process support and share results via a knowledge data bank available to all participating centers without sharing the data itself. Additionally, the system allows for models’ meta-analysis for further improvement with a growing number of medical cases.

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