After a long silent period, Artificial Intelligence (AI) is back on the scene, boosted by the technological progress done in both software and hardware areas. This revival is going to affect drastically our life and the expectations behind AI are great but research challenges are even greater.

As major actor of research and innovation, CEA Tech is highly involved in this research effort: experimenting the usages of AI to solve societal issues in domains such as health, energy and transport; empowering AI by enabling edge and trustable AIs.

Firstly, edge - or embedded - AI (eAI) is a new research field on AI, which requires new hardware platform and new algorithms. Algorithms for eAI must take into account the constraints on the hardware resources, but also adapt to evanescent data.

Secondly, while AI may be involved in decision-making process, trust is a key point. Usual software engineering practices, such formal techniques and model-based software engineering, have hence to be revisited to cover AI specificities. Consequently, as major actor of innovation CEA Tech is investing in doing research in these two domains, edge AIs and trustable AIs.

CEA Tech mission is to foster research transition into innovations for solving societal issues considering ethical guidelines. In that context, CEA Tech experiments and push Artificial Intelligence in many applications domains such as healthcare, telecom, photonic, manufacturing, robotics, computer vision, energy and autonomous transport. In each domain, our research groups gather experts of the field but also researchers and engineers from other horizons (e.g., semiconductor technology, sensors or hardware design, software engineering, and model-based engineering) in order to innovate in a transversal way. AI makes no exception, and many teams are investigating AI techniques applied to their domain specific research fields.

A PhD student in any of these teams has the insurance not only to become an expert in AI but also learn much more outside the sole AI field. PhD students are also in direct contact with real problems to solve and involved with CEA Tech engineers and researchers in concrete projects raised by industry.

CEA Tech is building next generations of AI hardware and software platforms, especially for edge embedded AI and trustable AI. A PhD working on this topic at CEA Tech will develop new AI techniques, will be engaged in multi-disciplinary team, will be involved in exiting projects working on societal challenges, and will be embedded in international teams.

**WHY A PHD RELATED TO ARTIFICIAL INTELLIGENCE & DATA INTELLIGENCE AT CEA TECH?**

CEA Tech is a major actor of research and innovation in Artificial Intelligence and Data Intelligence. It fosters research transition into innovations for solving societal issues considering ethical guidelines. In that context, CEA Tech experiments and push Artificial Intelligence in many applications domains such as healthcare, telecom, photonic, manufacturing, robotics, computer vision, energy and autonomous transport. In each domain, our research groups gather experts of the field but also researchers and engineers from other horizons (e.g., semiconductor technology, sensors or hardware design, software engineering, and model-based engineering) in order to innovate in a transversal way. AI makes no exception, and many teams are investigating AI techniques applied to their domain specific research fields.

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