Antonio Ballarin is a theoretical physicist, a senior member of the International Neural Network Society, and the Chief Artificial Intelligence Officer at Sogei S.p.A. (an Italian public-sector company). He is also a visiting professor at University Canada West in Vancouver and has spent nearly thirty years studying mathematical models of human learning and generalization processes.

Throughout his career, he has held executive and professional roles, accumulating decades of experience in Artificial Intelligence, technological innovation, R&D, digital transformation, and complex systems management across public, private, and academic sectors, as well as within international organizations.

He currently works at **Sogei S.p.A.** an Italian governmental company, serving as **Chief Artificial Intelligence Officer** and **Head of the Artificial Intelligence Relations and Communications Line**. In this capacity, he provides strategic direction and coordination for defining and implementing corporate AI initiatives - focusing particularly on building a **Cognitive Enterprise** and fostering the adoption of AI skills, methodologies, and solutions throughout the organization.

His responsibilities include defining AI adoption strategies, overseeing research and innovation projects, and promoting emerging technologies such as **quantum computing, Distributed Ledger Technology, blockchain, and advanced Machine Learning techniques**.

His applied research focuses on areas including **Natural Language Processing, classification and forecasting, and generalization and machine learning systems**, with applications in predictive justice, cybersecurity, epidemiology, financial markets, and AI ethics.

Throughout his tenure at Sogei, he has held positions of increasing responsibility - including **Technical Leader** within the New Initiatives Development Division and the People, Organization & Digital eXperience Division - contributing to the **Cognitive Enterprise** project and fostering a culture and skillset centered on Artificial Intelligence.

He also headed the **Digital Research and Laboratory Organizational Unit**, where he was responsible for defining and governing the corporate strategy for the structured adoption of AI solutions. In this capacity, he coordinated and participated in projects involving **Artificial Intelligence, Machine Learning, GNSS, the Internet of Things, and quantum computing**, as well as the development of applications for classification, natural language processing, image recognition, and time-series forecasting.

Within the scope of **Digital Strategy and Innovation** activities, he served as the point of contact for strategic projects involving innovative digital platforms, participating in the development of blockchain-based systems and prototype solutions for predicting cyberattacks.

Furthermore, he researched and developed AI and Machine Learning applications tailored to the Governmental Administration, alongside experimental solutions utilizing Genetic Programming applied to Decentralized Autonomous Organizations.

A significant aspect of his professional career involves the design and implementation of **Knowledge Management and advanced information management** systems. At Sogei and Consip (the latter also being a government administration), he developed and managed solutions for the integration, indexing, classification, and representation of knowledge from distributed sources, supporting the information systems of the ***Ministry of Economy and Finance**.

He also promoted the use of semantic technologies and Artificial Intelligence paradigms for automated information analysis and the development of predictive systems. At Consip S.p.A., he held senior roles managing **Knowledge Management and IT Governance** projects, overseeing the design and implementation of systems to support technological infrastructure and business processes. He also participated in research

and analysis regarding the relationship between public procurement, innovation, and standardization - including within the European STEPPIN program - and tracked the evolution and application of technologies such as Machine Learning, Business Intelligence, Data Mining, Data Warehousing, document management, workflow management, Enterprise Information Portals, and information access and retrieval systems.

Previously, he gained significant managerial and entrepreneurial experience in the ICT sector. As **IT Manager and R&D Manager** at **Webintouch**, he directed activities production activities and technology projects aimed at the Governmental Administrations - including environmental monitoring and pollution forecasting systems based on self-learning multi-agent systems, as well as pilot projects for the use of innovative technologies in electoral procedures. At **NousWare**, he served as **Partner and R&D Manager**, overseeing the consulting and implementation of Data Mining and Machine Learning solutions for major public and private organizations, including SIA, ENI, Consip, EDS, ISVAP, Diners Club, UniCredit, and Rizzoli-Corriere della Sera. Subsequently, at **Noustat**, he was a Partner and head of the Rome office, coordinating research and development activities in areas such as decision trees, boosting, classification, and Bayesian networks.

He is the author of over 40 scientific publications (articles and texts) covering his research on neural networks and Artificial Intelligence.