Lusis and CentraleSupélec join forces to create a Research Chair in "Artificial intelligence in payment fraud detection and trading"

On the 16th January 2020, Romain Soubeyran, President of CentraleSupélec, and Philippe Préval, Managing Director of Lusis, launched the Research Chair in "Artificial intelligence in payment fraud detection and trading". With this partnership, Lusis and CentraleSupélec are strengthening their collaboration in the field of artificial intelligence in the banking sector.

Lusis is the creator of TANGO, a high-performance transactional platform for payment systems and market finance. The platform allows Lusis to offer fully comprehensive payment systems including fraud detection, as well as exceptionally rich and complex "front to back" trading platforms.

In June 2017, Lusis created an Artificial Intelligence department responsible for working on Machine Learning / Deep Learning approaches, mainly applicable to payment fraud detection and trading strategies in financial markets. The goal was to provide a formal framework for this permanent R&D approach. The Lusis AI department also looks at other areas such as recommendation systems.

CentraleSupélec, for its part, places high importance on artificial intelligence, specifically by dedicating a 3rd Year Concentration to the subject. CentraleSupélec's laboratories are also active in the field, taking part in a number of projects. This is the first CentraleSupélec chair to be created with an SME, a French one moreover, and with high technological potential.

A high level of involvement from students and researchers

Within the framework of industrial study contracts (*contrats d'étude industrielle* or "CEI"), and thanks to the long-standing collaboration between Lusis and CentraleSupélec, the School's engineering students have the opportunity to carry out projects which relate to the resolution of complex problems using statistical or machine learning approaches.

Involving students allows Lusis to generate and capture new ideas that are created in the laboratory and have an industrial application, and to access a pool of skills (researchers, students and collaboration network) conducive to the development of the various projects carried out.

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Scientific objectives and research themes

The Chair created by Lusis and CentraleSupélec provides a structured working framework that allows the two partners to carry out research work of specific interest, relying on a dedicated research team. It operates out of the Computer Science Research Laboratory (*Laboratoire de Recherche en Informatique* or "LRI"), a joint research unit shared by Paris-Saclay University, CNRS and CentraleSupélec.

The themes studied include payment fraud detection and trading strategies.

As far as fraud detection is concerned, the main areas to consider are the appearance of new fraud strategies and the essentially online nature of the process, as well as the ability to provide an explanation for the refusal or acceptance of a transaction.

When it comes to trading strategies, the work highlights the random nature of the financial market data time series. This is the main challenge of research in this area.

Philippe Préval, General Manager of Lusis explains, "Artificial intelligence is a major upheaval in the IT world and in business in general. It will completely redraw the landscape of whole sections of the industry. We want Lusis to be part of this revolution, especially in our focus areas of trading, payment systems, online banking, and customer-centric programs. For us, being an AI player means being an actor in AI research. For this reason, we are both happy, satisfied and proud to be able to give a new dimension to our long-standing partnership with CentraleSupélec with this Chair. Our teams, like those set up by CentraleSupélec, are enthusiastic about exploring these new universes".

Romain Soubeyran, President of CentraleSupélec, says "Artificial intelligence is a young science whose recent successes and advances open up enormous potential for innovation in all fields and sectors of activity and which is at the heart of CentraleSupélec's strategy. Our dedicated courses educate the engineers and researchers who will build tomorrow's intelligent systems at the service of society. With a broad variety of disciplines, our research activities cover a wide spectrum of AI". He adds, "The Chair of Artificial Intelligence in payment fraud detection and trading that has been developed with Lusis allows us to reinforce this strategy with a very ambitious scientific program".

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Fabrice Popineau, Holder of the Chair

Fabrice Popineau is a professor at CentraleSupélec. He is an expert in artificial intelligence. He is an official AFNOR and ISO expert for the subcommittee in charge of standardization in Artificial Intelligence. He is the expert scientific consultant for the French translation of the book "Artificial Intelligence" by Stuart Russell and Peter Norvig (used in more than 1,100 universities worldwide). He has supervised numerous industrial projects using deep learning techniques. He has also co-supervised several theses using machine learning techniques, in particular in the field of education and in that of recommendation.

- **About Lusis**

Lusis is a technology supplier providing solutions for:
- Payment HUB
- Trading
- Advanced messaging
- Combatting fraud

Lusis Payments is a major player in the payments world.
We focus on R&D, innovation, performance, time to market, disruption. We take advantage of SCRUM, both for our own developments and for the projects we carry out with our customers.
The architecture of our micro-service solution (Tango) benefits from constant R&D investment on new payments, AI, distributed ledgers, performance.
We have clients all over the world, operating directly or through partnerships from:
- Paris: HQ, R&D
- London: EMEAA Sales
- San Francisco: America's sales

https://www.lusispayments.com/

- **About CentraleSupélec**

CentraleSupélec is a public institution with a scientific, cultural and professional vocation, created in January 2015 out of the merger between the École Centrale Paris and Supélec. CentraleSupélec now comprises 3 campuses in France (Paris-Saclay, Metz and Rennes). It has 4,300 students, including 3,200 engineering students, and 16 laboratories or research teams. It is very international (30% of its students and almost a quarter of its international teaching staff are international), and has established more than 170 partnerships with leading world institutions. One of the top schools in higher education and research, CentraleSupélec is a point of reference in the areas of engineering and systems sciences, ranked among the best institutions in the world. It is a founding member of Paris-Saclay University and heads the Ecoles Centrale Group (Lyon, Lille, Nantes and Marseille), which operates international establishments (Beijing (China), Hyderabad (India), Casablanca (Morocco)).

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