The Intelligent Systems Group at Fraunhofer AICOS is driving the introduction of Artificial Intelligence capabilities to the Industry and has prepared a set of training series on Deep Learning tailored to the challenges of our partners.

FORMAT
Workshop with theoretical and hands-on sessions

STARTING
Regularly and on request

DURATION
According to client's needs

AUDIENCE
From beginner to advanced levels to gain competences in Deep Learning

COURSE FEE
Under consult

DEEP LEARNING
Training

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Fraunhofer delivered a condensed view of the latest deep learning methods applied in real-world computer vision challenges. Ranging from basic concepts to specific tips resulting from practical experience allowed a quick and focused acquisition of practical know-how that will have an immediate application to BOSCH Car Multimedia division challenges.

André Ferreira, Eng. Manager at
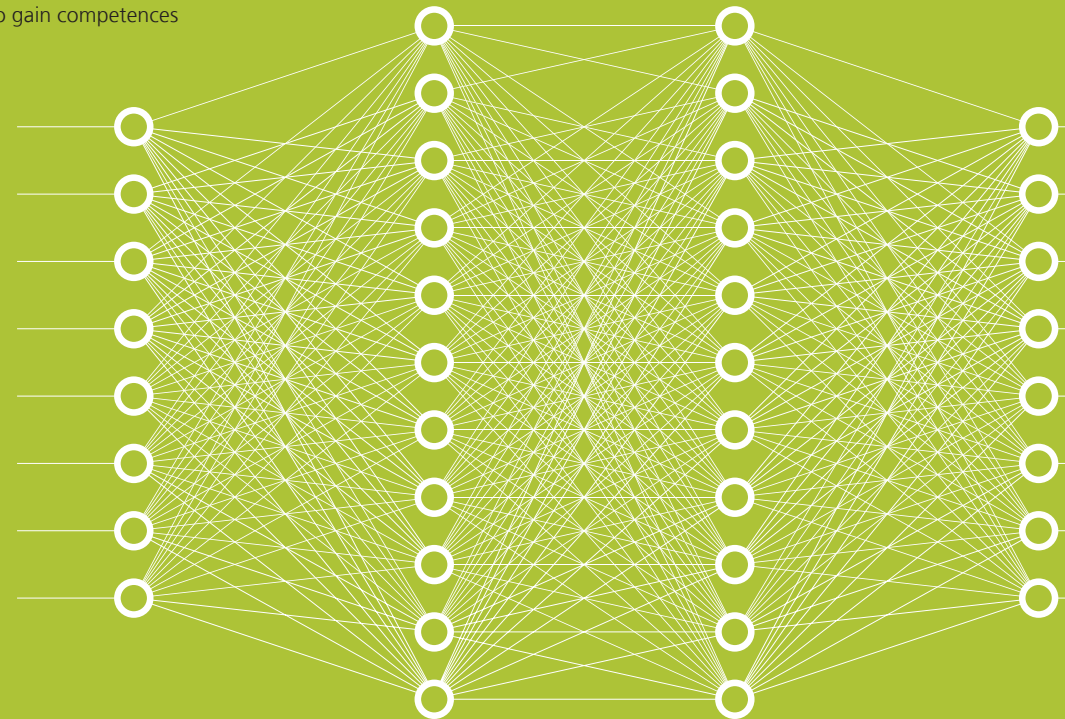*Bosch Car Multimedia*

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Overview

Last years have witnessed the onset of a paradigm change on how businesses work. Data is becoming more accessible, and there is much value to extract from it in virtually every industry field. Along with improvements in computing power, industry players need to keep up with the ever-changing technology, constantly evolving their use of intelligent systems to boost performance and efficiency.

Fraunhofer AICOS is offering a custom-built training series on Deep Learning (DL), consisting of theoretical and hands-on sessions. These are built upon practical examples, exploring multiple methods and uses of Deep Neural Networks, considered the cutting-edge of Machine Learning techniques, to achieve a deeper understanding of real-world problems and deliver tangible solutions with a short-term impact. Our partners are challenged to bring their own data resulting in a truly tailored learning experience.

Key benefits

– Selected training sessions, focused on your company's specific business environment;
– Tools used in practical sessions are open source (either publicly available or developed at Fraunhofer AICOS), so your company can apply the solutions right away;
– Increase Deep Learning competences applied on your real problems.

Contents

An Introduction to Deep Learning
Basic concepts of DL: the Artificial Neuron and its role as a basic unit of Deep Neural Networks; training through backpropagation; different network architectures and their most appropriate applications.

Best Practices in Deep Learning
Tricks of the trade, from data preprocessing and augmentation to model evaluation and optimization. Examples of applications within our innovation portfolio.

Partner Challenges
Partners are challenged to share some pain points where DL could have the most impact, even if traditional Machine Learning is already employed. A round-table discussion is promoted to pinpoint possible solutions and next steps with Fraunhofer AICOS experts.

Hands-On
Participants work on public datasets and use DL frameworks to implement and train a classifier. Optionally, the partners' own data can be used to reveal the potential of DL to solve their real challenges.

Note: The hands-on sessions are based on Python, for which a fundamentals course is available on request. Additionally, Fraunhofer AICOS offers a training series in Machine Learning that, although not necessary, is suggested as a preliminary series.

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PhD in Electrical and Computer Engineering from Instituto Superior Técnico, Technical University of Lisbon, he founded PLUX, a technology-based innovative startup in the field of systems and wireless medical sensors.
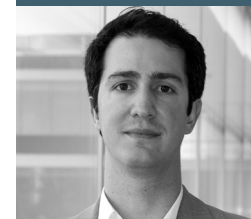
André Carreiro is a Senior Researcher of the Intelligent Systems Group at Fraunhofer AICOS. PhD in Biomedical Engineering from Técnico Lisboa – University of Lisbon, he has been working with Deep Learning methods in the last years, both in academia and industry, resulting in a balance between innovation and making sure such techniques are applied efficiently to solve real-world problems.