

## Learning to work with Machine Learning

### A programme for the professions.

We have been living in the age of Machine Learning for some time however the Covid 19 pandemic is creating the conditions for an accelerated advance. Machine Learning refers to technologies that seek to emulate how people learn by using algorithm-driven process that works with data relevant to a specific problem. Along with the associated processes of artificial intelligence, robotics and automation which together we call the Fourth Industrial Revolution there are many examples of how Machine Learning has provided new products and services. However, there are also some difficulties associated with Machine Learning including the displacement and replacement of skilled worker at all levels, including those professionally qualified.

Our research with professionals suggests an awareness of the impact of Machine Learning but an inability to work on its design and development in their organisations. They could see how machine learning had the potential to reshape work and the skills needed, including their own jobs.

Our programme seeks to address the work of professionals in organisations so that they develop the necessary skills and confidence to affect the design and implementation of Machine Learning projects. The purpose of the programme is to create Hybrid Professionals for Machine Learning based on learning of expert knowledge which is sufficient to gain influence in interactions with the developers of Machine Learning and associated processes.

The programme works as follows:

1. The formation of a learning group of 4-6 professionals without ML skills and knowledge
2. The groups meets for 90 minutes (by Zoom or Teams) to set goals, pose questions and set up interactions. The key features of ML and other processes will be considered.
3. Identification of sources and locations of ML expertise and practice which will allow access to talk with practitioners of ML.
4. Over 5 weeks, professionals arrange to interact with ML experts for 30 minutes – twice a week.
5. After each interaction, professionals log experience of interactions and set further questions
6. The learning groups will meet after 5 weeks for 90 minutes to share experiences, review learning and set further questions and goals.
7. The process will continue for four more cycles of learning and review over 5 weeks each time.

We will support each group with an online resource and, where required, access to ML experts.

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