Page White and Farrer has a team of patent attorneys dedicated to the protection of software, including artificial intelligence applications.

Our experience over many years in the software industry has provided us with expertise to handle the many challenges posed by Patent Offices throughout the world in protecting AI innovation. This is important because Trade Secret and Copyright protection, while important, have serious limitations.

We have obtained protection for (among vastly many other things!) algorithms that are providing a real-world effect, user interfaces, including conversational interfaces, computer architectures and many different types of software from programs running technical applications to compiling and programming techniques.

We work with companies and their directors who are seeking to build shareholder value via their intellectual property portfolio, often with a view to seeking VC funding, sale or listing on a stock exchange.

Part of our unique approach involves working with the technical and business teams to help them understand the particular market sectors and commercial use cases which may be protected, as well as the underlying technology, to ensure the resulting portfolio provides real, visible value. This is particularly important where many AI inventions can seem ‘invisible’, because the technology is highly embedded.

Artificial intelligence also raises the intriguing question of how to handle the IP in an innovation which arises as a result of AI programs.
OUR PATENT ATTORNEYS

Virginia Driver

Over the years I have registered thousands of patents in a wide variety of scientific fields.

My clients come from a range of technical industries such as audio and video coding, computer architecture and applications, signal processing, visible light communications, network protocols, and user interfaces, telecommunications and e-commerce. Increasingly, the technologies are extending into data science: alternative intelligence, fintech, big data etc.

In recent years, my practice has extended to designing and building patent portfolios as a business asset for companies. As outside counsel I have been responsible for the development and growth of a number of high profile portfolios, since acquired by major companies at significant values. Alignment of IP with business strategy played a key part in building the value of each portfolio.

The former President of the Software Commission for the UNION of European Patent Attorneys – a forum for discussing and influencing forthcoming draft laws and international agreements.

Martyn Townsend

A specialist understanding of the issues surrounding the patenting of software and algorithms is key.

Martyn originally studied physics and mastered in particle physics, modelling particle interactions expected to occur in the Large Hadron Collider. He has since turned his hand to the protection of a range of technologies including software, protocols, computer architecture, signal processing, audio and video coding, and user interfaces. He became a partner in the software and electronics team in 2015.

Martyn takes a particular interest in the issues surrounding the patentability of software and mathematical algorithms, such as those involved in machine learning and knowledge models. The law precludes the patentability of pure software algorithms ‘per se’. However, by explaining how the algorithm has a technical advantage, such as improved...
accuracy, reduced processing resources, etc, then we can demonstrate that the substance of the invention lies not merely in the abstract mathematics, but rather has a real, tangible effect. This kind of algorithm is perfectly patentable.

**Tom Woodhouse**

Tom’s focus of study was on quantum computing and foundational quantum mechanics.

He also studied machine learning, focusing on the basics of supervised and unsupervised learning and covering general machine learning concepts and models, logistic regression, support vector machines; evaluating models and algorithms, computational learning theory; mixtures of Gaussians, EM, LDA and PCA; HMMs.

Prior to that, he also studied stochastic processes and field theory in a theoretical physics context, which provided a useful mathematical basis for several AI concepts.

Since joining Page White and Farrer, Tom has drafted and prosecuted various patent applications in various AI-related fields such as neural networks, word embedding, natural language processing and NLUIs.

**Andy Thomas**

With over 20 years’ experience as an in-house patent practitioner; Andy has dedicated over 10 years of his career working for a large multinational defence company.

Having gained exposure to an array of advanced technology systems, Andy has developed experience in a wide variety of AI contexts including: RF (Radio Frequency) and data processing techniques in detection, recognition and avoidance; data and information security in general, including High-Speed Data capture and analysis, SDN (Software Defined Networking) and ultra-secure communications; autonomous controllers and sensor data interpretation; ad-hoc networks; off-line and real-time image processing for object tracking, detection and recognition; avionic-grade digital and holographic image rendering, displays and processing, including head-mounted and head-up displays, head and eye tracking techniques.
Thomas Mahon

Thomas studied various computing modules at QMU and his dissertation involved implementing computational prediction and optimisation methods within the topic of particle interactions.

Thomas joined Page White and Farrer from a hedge fund where, as an analyst, he was involved with researching stock market prediction methods. This involved conducting research into the application of Markov chains to predict stock price changes using historical data.

Working within the Page White and Farrer patents team, Thomas has focused on audio and video coding, signalling processing, visible light communications, network protocols, user interfaces and telecommunications. He has worked on several patent applications involving applying machine learning to predict user behaviour in the context of predicting intended recipients of messages.

David Wearing

David studied Markov chains during his degree and some optimisation methods (Newton’s methods and PFGS) related to the atomic simulations during his PhD.

David’s undergraduate degree was in electrical and electronic engineering, providing a solid background in general signal processing and electronics. He also studied fields related to AI, such as control systems (systems with feedback loops), Markov chains, finite state machines, Monte Carlo simulations and Kalman filters and focused on the ‘bearings-only tracking’ of an object, which used Kalman filters and Monte Carlo simulations to iteratively improve a position estimate of a distant object, based on new incoming bearings data.

David developed his experience in optimisation techniques, a field related to AI, during his PhD in materials science, where he performed atomic simulations using super computers. Specifically, optimisation techniques were used in the simulations to carry out structural optimisation procedures. The particular optimisation technique used is known as the Broyden-Fletcher-Goldfarb-Shanno minimisation (BFGS), which is an approximation of the well-known Newton’s method.

Recently, David has been working on 3G and 4G telecommunications inventions, as well as several inventions related to video and audio streaming, electronic circuits and semiconductor inventions.
Florencia Wisnivesky

During her PhD, Florencia used a combination of machine learning algorithms applied to analytical procedures, which operated on an individual signal to multi-dimensional arrays, for analysis of spectroscopy data aimed at compositional studies of materials.

Florencia used decomposition algorithms, such as principal component analysis (PCA), and blind source separation (BSS) algorithms, such as independent component analysis (ICA), to estimate the dimensionality of the data; to perform dimensionality reduction for denoising of data sets; and to obtain independent and uncorrelated factors.

- MSc (UNICAMP, Brazil), Chemical Engineering
- PhD (Cambridge), Materials Science