



## PATENTS ACT 1977

PARTIES	Equifax Inc
ISSUE	Whether patent application GB1915390.7 complies with Section 1(2) of the Patents Act 1977
HEARING OFFICER	Ben Buchanan

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### DECISION

#### Background

- 1 This decision relates to whether patent application GB1915390.7 complies with Section 1(2) of the Patents Act 1977 (“the Act”).
- 2 The application was published as GB2579139A. It was filed on 23 October 2019 with a claim to an earliest priority date of 24 October 2018.
- 3 Although the applicant requested combined search and examination, no search of the application was initially performed with the examiner instead reporting that search would serve no useful purpose under Section 17(5)(b). The reason for not performing the search was outlined in an abbreviated examination report dated 17 March 2020, which objected to the application on the basis that it was excluded from patentability under Sections 1(2)(c) of the Act as a method for doing business and/or a program for a computer. I note that a brief search to identify documents in support of objections reiterated in the examiner’s letter of 26 October 2021 was reported, but this does not constitute a comprehensive search for prior art. Should I find that the application is not excluded, then it will need to be resubmitted to the examiner for search and further examination.
- 4 Although the agent has amended the application and submitted arguments on behalf of the applicant, the examiner has maintained their objection that the application is excluded. The agent’s letter of 27 September 2021 included a request to be heard on the matter and was accompanied by the most recently amended claim set.
- 5 Accordingly, the matter came before me for a hearing on 16 December 2021 at which the applicant was represented by Dr Boff of Phillips & Leigh.
- 6 The only matter which falls to be decided is whether or not the invention is excluded under Section 1(2).

## Subject matter

- 7 The application is titled “Machine-learning techniques for monotonic neural networks”. It relates to using artificial intelligence to determine risk indicators and in particular a risk indicator associated with an individual can be calculated by applying a trained neural network model to predictor variables associated with that individual.
- 8 This risk indicator finds particular utility in assessing whether or not an individual user should be allowed access to a computing environment, i.e. whether a user at a consumer computer can be allowed access to a client computing system (note the use of “client” which in this context refers to a client of the risk assessment computing system, not an individual user (consumer) client). The overall arrangement is illustrated in figure 1 and the basic principle of operation in figure 2, both reproduced below.

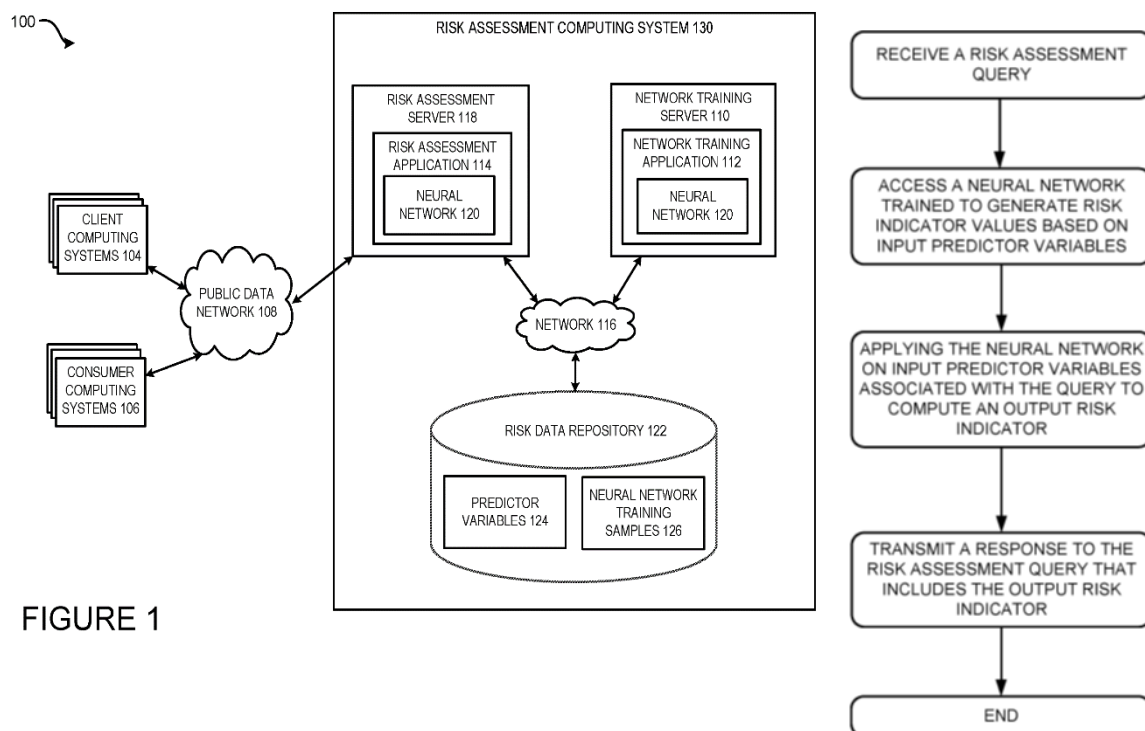


FIGURE 1

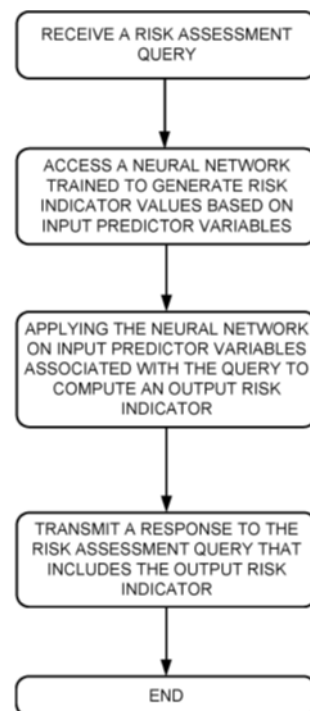


FIGURE 2

- 9 In a particular embodiment described in the application, the risk indicator can be in the form of a credit score determined using predictor variables such as age, income, financial records, etc. The client computing system can provide access to financial services, such as loan or credit card applications, and the user at the consumer computing system can be granted or denied access to the financial services environment based on their credit score.
- 10 The neural network is trained to compute the risk indicator from the predictor variables. The training of the neural network involves performing iterative adjustments of parameters of the neural network to minimise a loss function of the

neural network subject to a path constraint. The path constraint requires a monotonic relationship between values of each predictor variable from the training vectors and the training outputs of the training vectors. The iterative adjustments can include adjusting the parameters of the neural network model so that a value of a modified loss function in a current iteration is smaller than the value of the modified loss function in another iteration. The modified loss function includes the loss function of the neural network and the path constraint. Figure 3, reproduced below, is a flow chart depicting a method of training the neural network.

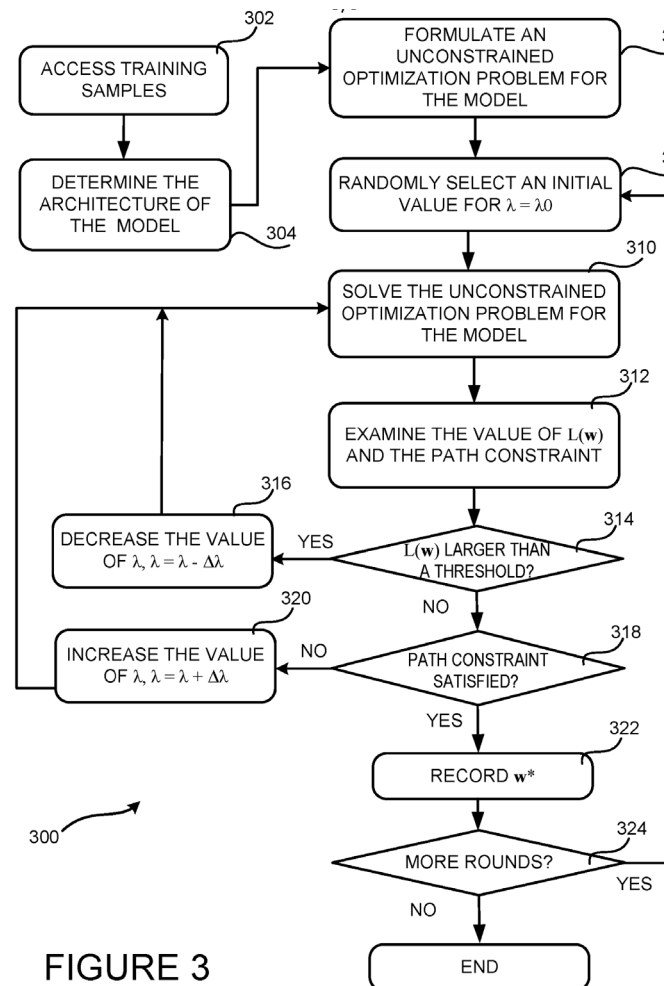


FIGURE 3

- 11 It is understood that by constraining the neural network to a monotonic relationship between predictor variables and training outputs, the training is both efficient and effective. Furthermore, the monotonicity provides explainable prediction, i.e. it is possible to generate explainable reasons why the neural network arrived at a particular outcome. These are all desirable factors in the application of the neural network to access control of a computing environment. It is further alleged that there was an assumption in the field that neural networks were necessarily a “black box” and it was not always possible to provide explainable prediction.
- 12 The method of training the neural network itself is not new, but its application in this field is alleged to be novel.

## The law

- 13 The examiner raised an objection under Section 1(2) of the Act that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown below:

*1(2) It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of*

...

*(c) a scheme, rule, or method for performing a mental act, playing a game or doing business, or a program for a computer;*

...

*but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.*

- 14 The assessment of patentability under Section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel*<sup>1</sup>, as further interpreted by the Court of Appeal in *Symbian*<sup>2</sup>. In *Aerotel* the court reviewed the case law on the interpretation of Section 1(2) and set out a four-step test to decide whether a claimed invention is patentable:

*(1) Properly construe the claim;*

*(2) identify the actual contribution;*

*(3) ask whether it falls solely within the excluded subject matter;*

*(4) check whether the actual or alleged contribution is actually technical in nature.*

- 15 The Court of Appeal in *Symbian* made it clear that the four-step test in *Aerotel* was not intended to be a new departure in domestic law; it was confirmed that the test is consistent with the previous requirement set out in case law that the invention must provide a “technical contribution”. Paragraph 46 of *Aerotel* states that applying the fourth step of the test may not be necessary because the third step should have covered the question of whether the contribution is technical in nature. It was further confirmed in *Symbian* that the question of whether the invention makes a technical contribution can take place at step 3 or 4.

- 16 Lewison J (as he then was) in *AT&T/CVON*<sup>3</sup> set out five signposts that he considered to be helpful when considering whether a computer program makes a

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<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd & Ors Rev 1* [2007] RPC 7

<sup>2</sup> *Symbian Ltd v Comptroller General of Patents* [2009] RPC 1

<sup>3</sup> *AT&T Knowledge Ventures/CVON Innovations v Comptroller General of Patents* [2009] EWHC 343 (Pat)

technical contribution. In *HTC/Apple*<sup>4</sup> the signposts were reformulated slightly in light of the decision in *Gemstar*<sup>5</sup>. The signposts are:

- i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer*
- ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run*
- iii) whether the claimed technical effect results in the computer being made to operate in a new way*
- iv) whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer*
- v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

## **Application of the Aerotel approach**

### Step (1): Properly construe the claim

- 17 The latest claims are the amended claims filed on 27 September 2021. Claim 1 is the only truly independent claim which reads as follows:

*1. A method that includes one or more processing devices performing operations comprising:*

*A) training a neural network model for computing a risk indicator from predictor variables, wherein the neural network model is a memory structure comprising nodes connected via one or more layers, wherein training the neural network model to generate a trained neural network model comprises:*

*a) accessing training vectors having elements representing training predictor variables and training outputs, wherein a particular training vector comprises (i) particular values for the predictor variables, respectively, and (ii) a particular training output corresponding to the particular values, and*

*b) performing iterative adjustments of parameters of the neural network model to minimize a loss function of the neural network model subject to a path constraint, the path constraint requiring a monotonic relationship between (i) values of each predictor variable from the training vectors and (ii) the training outputs of the training vectors, wherein one or more of the iterative adjustments comprises adjusting the parameters of the neural network model so that a value of a modified loss function in a current iteration is smaller than the value of the modified loss function in another iteration, and wherein the modified*

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<sup>4</sup> *HTC v Apple* [2013] EWCA Civ 451

<sup>5</sup> *Gemstar-TV Guide International Inc v Virgin Media Ltd* [2010] RPC 10

*loss function comprises the loss function of the neural network model and the path constraint;*

*B) receiving, from a client computing system, a risk assessment query for a target entity associated with a consumer computing system;*

*C) computing, responsive to the risk assessment query, an output risk indicator for the target entity by applying the trained neural network model to predictor variables associated with the target entity; and*

*D) transmitting, to the client computing system, a responsive message including the output risk indicator, wherein the client computing system is configured to (i) provide one or more interactive computing environments, and (ii) use the output risk indicator to determine whether to grant access to the one or more interactive computing environments by the consumer computing system.*

- 18 The definition of a *method* which includes *devices* is a little unusual, but I read the claim to mean that the method comprises operations performed by one or more devices. I do not see any issues with the construction for the purposes of identifying the contribution and the claim may otherwise be construed as read, noting the distinction between the client and the consumer computing systems mentioned above.
- 19 It is nevertheless worth pointing out that, as emphasised in the agent's skeleton arguments, the claim itself is not restricted to determining a credit score nor is it restricted to the access of financial services. The claim relates to any risk indicator, and the granting of access to any interactive computing environment based on that risk indicator.
- 20 There are a number of pseudo-independent claims all incorporating to some degree the method of claim 1. I will consider these claims further following my consideration of the patentability of the invention of claim 1.

Step (2): Identify the alleged contribution

- 21 The process of identifying the contribution was summarised in paragraph 43 of *Aerotel/Macrossan* as follows:

*... it is an exercise in judgement probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form – which is surely what the legislator intended.*

- 22 The examiner has set out their assessment of the contribution in their pre-hearing report dated 26 October 2021. They purport to agree with the contribution identified in the agent's letter of 27 September 2021. The contribution is said to be:

*A method or system which will optimise a neural network for accurate determination of risk indicators for target entities and enables efficient training of the neural network, as well as effective training (the trained neural network is*

*stable, reliable and monotonic for providing explainable prediction), and then using the risk indicators to control access by a target entity to an interactive computing environment.*

23 I consider this to be a suitable formulation for the contribution which recognises the importance of the training of the neural network in providing access control, and the particular advantages conferred by that method. I queried whether Dr Boff considered the alleged contribution to apply to all the claims. He said they did and asked that the determination of risk indicators and the control of access to the network be afforded appropriate weight and that neither be de-emphasised in favour of the other. I am happy that each is essential to the alleged contribution of claim 1 and will be considered accordingly.

Steps (3) & (4): Does the contribution fall solely within the excluded subject matter; check if the contribution is actually technical in nature.

24 The third and fourth steps of the *Aerotel* test involve considering whether the contribution falls solely within excluded categories, and then checking whether the contribution is technical in nature.

25 Dr Boff's argument at the hearing separated these steps into an explanation of why none of the claims related to any excluded thing as such, and then why the alleged contribution provides a technical effect. This is a perfectly valid approach. It is equally appropriate (as summarised in paragraph 15 above) to consider these two steps together because whether the contribution is technical in nature will have a direct impact on whether it falls solely within excluded matter. I will carefully consider Dr Boff's argument as it was presented to me but I will address it by considering steps 3 and 4 together.

26 Dr Boff began by reiterating the integers of claim 1, namely: the training of a neural network; the receipt of a risk assessment query; the processing by a computer to produce a risk indicator; and transmitting the risk indicator to a client computing system which is able to grant or deny access to an interactive computing environment. This, he argued, involved communication between at least three distinct different devices, and in controlling access to a separate system did not fall solely into any excluded field as such. He then explained that claims 12-15, which share the alleged contribution, anchored the invention in technical apparatus (claim 12), a holistic application over a network (claim 13), a network (claim 14) and a storage medium (claim 15) further evidencing that the claimed invention was not merely any excluded thing as such as defined by section 1(2).

27 The argument then asserted that considering whether the invention added to what is *technically conventional* was a question of novelty and inventive step, which has not been concluded; but Dr Boff argued that patents are by their nature not representative of conventional technology and therefore that by "mosaicing" them in a way not intended by the authors, as the examiner did in their letter of 26 October 2021, the combined teaching could not be regarded as conventional. That the claimed invention was further distanced from this teaching, he alleged, underlined that it was *technically unconventional* and therefore had the required technical character.

- 28 I am not sure that this particularly advances the argument in favour of patentability. At best, I think, it suggests that technical features (such as apparatus) are present, as they are in the prior art, although they may be used differently. What is important is whether there is a contribution which is technical in nature.
- 29 The contribution is clearly enabled through the use of a computer program. However, the fact that the invention is effected in software does not mean that it should immediately be excluded as a program for a computer as such. In *Symbian*, the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution.
- 30 I note at this point that much of the examiner's prior objection to this patent application was on the basis that it is directed specifically to generating credit scores, and the use of those credit scores to access financial services. This use is clearly within the field of business. Equally, much of the response from the applicant has been directed towards arguing that the consideration of patentability should not be limited in that way. Key to this reasoning is that the provision of any financial services is only performed after the access control permits it. This is an attractive argument. Dr Boff is essentially saying that a better door lock is a better door lock. It does not matter what lies behind the door. I agree. I accept that claim 1 is not limited to the provision of financial services and indeed the contribution is not limited in this way either. Accordingly, patentability should not be assessed on the basis that its sole purpose is for accessing financial services.
- 31 Nevertheless, I cannot infer a technical characteristic arising from a technical field of application where none is set out in the specification. No examples of how to implement the invention are provided in the specification which I consider have any inherent technical merit. Dr Boff pointed to paragraph [0028] of the description which he alleged broadened examples of how the invention could be applied. That section provides a general description of some aspects of the invention but does not clearly support an inherently technical implementation.
- 32 He sought to persuade me that a skilled person could implement the claimed invention without being over-reliant on the description to control access to any interactive system. That may be so, but the fact remains that the only specific application disclosed (for example in paragraphs [0030], [0031] & [0039]) is to control access to financial services. That would seem to fall squarely within a method for doing business and so for the remit of the claim to include it as such. Even if the scope of the claim could include controlling access to "technical" interactive environments instead<sup>6</sup>, the fact that the claim also includes a non-technical alternative renders this argument void<sup>7</sup>. It would also seem to be at odds with the "behind the door" argument above. Section 1(2) seeks to prevent the grant of claims

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<sup>6</sup> I make no finding on whether controlling access to a "technical" interactive environment could impart technical character

<sup>7</sup> From the Manual of Patent Practice at section 1.15: Floyd J observed in paragraph 23 of *Kapur v Comptroller-General of Patents* [2008] EWHC 649 (Pat), if there are embodiments of a claim that fall within excluded subject matter, the fact that the claim is wide enough to encompass embodiments that are not excluded under s. 1(2) will not be sufficient to save it. The exclusion "will still bite to the extent that excluded subject matter is claimed".



with excluded matter as such within their scope and so if a technical contribution is not evident, the exclusion will apply.

- 33 I should add at this stage that underpinning this position, and reiterated several times throughout the hearing, was the assertion that access control is technical and that the current implementation was unconventional (and therefore provided a contribution). I think this reorders the requirement for technicality. It is indeed the case that access control can be technical, however the claimed invention and the contribution identified above control access on the basis of improved risk indicators. It is not sufficient that the contribution should be unconventional; rather it should provide a technical effect.
- 34 Much of Dr Boff's argument at the hearing was directed to access control being a technical function and the computer network also being technical such that there was inevitably a technical contribution in their combination. He also argued that it was a new network because it operated in a different way to conventional networks. However, there can be no doubt that it is implemented in conventional computing hardware, and that it operates under the control of an allegedly novel computer program. That does not preclude it from being patentable, but as noted above there must be some technical effect to take it outside the exclusion.
- 35 In support of the "access control" argument, Dr Boff discussed known methods of access control, giving examples of unrestricted access (e.g. to ipo.gov.uk), password protected access (e.g. to an email client) and access control based on broad categories such as geoblocking. The claimed neural network approach is said to provide an entirely different "fuzzy" approach which is a more nuanced method of access control based on a "best guess" of whether or not a user should be granted access.
- 36 Ultimately, however unconventional the method of choosing to whom to grant access based on risk, it is an administrative decision under the control of a computer program. The boundary regarding who should and should not be granted access, whilst "fuzzy", is determined based on similar past administrative decisions; the outcomes of those past administrative decisions being fed into the training of the neural network so that it can make better informed decisions in the future. I have carefully considered this point. As I stated above, access control can be "technical". On reflection though, I cannot agree that the presently claimed access control is technically improved. What is changed is the administrative policy on the basis of which access is granted. The data entered is not better authenticated or less susceptible to interception, for example. Instead it creates a risk indicator on the basis of which an administrative decision is made.
- 37 An analogy used in the skeleton arguments is that of making a telephone call to a bank, the point being that just because the discussion is directed to financial services, that does not affect the technicality of the means used to make the call. To extend that analogy, the present invention is akin to someone telephoning a bank and being asked a series of questions, the answers (which may not be exclusively pass or fail) to which may be used to determine whether or not to put the caller through to a manager. Although a computer is used to determine whether or not to *put the caller through* that fact is alone is not enough to confer technicality on what is otherwise a business or administrative decision.

- 38 For these reasons I consider that the claimed invention relates to a method for doing business as such and is not technical in nature. However, for completeness, and acknowledging that the claim (notwithstanding the description) is not limited to controlling access to financial services, I will consider whether the contribution provides a (general) technical effect beyond a program for a computer as such.
- 39 During the hearing Dr Boff commented on each of the *AT&T* signposts in support of the contribution being technical in nature. I will do the same.

*First signpost – whether the claimed technical effect has a technical effect on a process which is carried on outside the computer*

- 40 The invention consists entirely of software running on conventional computing hardware. The neural network determines risk indicators which are used to control access to an interactive computing environment. Dr Boff argued that the determination of whether access is allowed is an effect external to the computer. In particular he identified claims 1 (method) & 12 (risk assessment computing system) as meeting this signpost. To my mind the contribution comprises the computation of risk indicators and the determination of access based on them. The contribution is said to be common to all claims and the form of the claim does not limit the contribution which arises when the invention is put into effect. The contribution arises entirely within the computer. I cannot see there is any function or effect occurring outside the computer system.
- 41 The applicant argues in their letter of 27 September 2021 that the “*access/denial of access is provided by/to systems exterior to the system performing the method, it is inherently a process carried on outside the computer*”. However, this seems to mischaracterise the invention of the latest claims in which the method is carried out across all three computer systems (the client, consumer and risk assessment computing systems) and in particular, it is the client computing system which determines, on the basis of the risk indicator, whether or not to grant access to a consumer. In any event, for the purpose of this first signpost, as emphasised by Birss J in paragraph 30 of *Lantana*<sup>8</sup> the network of computers may be regarded as the computer of the signpost. Signpost one does not therefore point to any technical contribution.

*Second signpost - whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run*

- 42 Dr Boff argued that fundamentally changing access control to a network changes the way the network architecture works. It seems to me that the invention does not operate at the level of the architecture of the computer in the sense of the operation of the processors, memories, or other internal components or connections. The contribution specifically relates to training a neural network using training data and using the trained neural network to control access to an interactive computing environment. It is clearly dependent on the training data and predictor variables being processed.

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<sup>8</sup> *Lantana v Comptroller-General of Patents* [2013] EWHC 2673 (Pat)

- 43 The hardware aspects of the system are conventional as are the network interactions. The invention is characterised by the nature of the data processed under control of the software applications run. This signpost does not suggest any technical effect.

*Third signpost - whether the claimed technical effect results in the computer being made to operate in a new way*

- 44 In his letter of 27 September 2021 Dr Boff argued that “the method...results in access to the interactive computing environment by the target user being provided or denied in a different manner (since it is a change to the process by which this access/denial of access decision is made)”. At the hearing he added that in fact several computers operate in a new way: the trained neural network; the client computer in allowing or denying access; and indeed the network as a whole. As Lewison J effectively noted in paragraph 31 of AT&T this signpost “points towards some generally applicable method of operating a computer rather than a way of handling particular types of information”. The risk assessment computing system uses the neural network to generate a risk indicator. That risk indicator is communicated to the client computer in a conventional manner and the client computer then determines whether or not to allow access. That determination is essentially an administrative decision dependent on the level of risk considered appropriate for access to the interactive computing environment. The subsequent granting or denying of access is carried out in a conventional manner. As with the second signpost, any “new” operation is a consequence of the application run and the data processed, not a generally applicable method. The third signpost is therefore not helpful.

*Fourth signpost - whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer*

- 45 Dr Boff explained that the neural network is optimised for accurate determination of risk indicators. The particular method of training the neural network using the monotonicity between predictor variables and outputs is said to be more efficient and effective than alternatives. By virtue of the neural network, the computer network is therefore more efficient and effective.
- 46 However, in order to satisfy this signpost, the computer as a whole must run more efficiently and effectively, not just the individual program. In other words, once again, for the signpost to be satisfied the benefit should arise independently of the data processed or the application run. In this case, the computer itself remains unchanged beyond merely running a new program – it still processes data in the same way as it did before. A piece of software merely making better use of available hardware resources does not necessarily provide a technical contribution. I do not consider this signpost points to any technical effect.

*Fifth signpost - whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented*

- 47 The fifth signpost relates to whether or not the computer program overcomes a technical problem and thereby lends technicality to the contribution.

- 48 At the hearing Dr Boff characterised the problem as *access control on the basis of risk indicators*. This is achieved by firstly training the neural network in a particular way, then generating risk indicators and controlling access accordingly. As noted above, the problem of controlling access can be a technical one relating to authentication and security. The current invention addresses the stated problem by generating risk indicators based on training data with a monotonic characteristic, which means the outcome can be explained. Whilst this may be advantageous it does not seem to me to overcome a technical problem. Rather, the advantages would seem to lie in the field of business exemplified throughout the specification. Neither the stated problem, nor the claimed solution, convince me of technical character. I consider the problem to be a business or administrative problem relating to a level of consumer risk the interactive computing environment provider is willing to admit.
- 49 If I am wrong and the problem of controlling access in dependence upon risk indicators relating to consumer variables is indeed technical, then it would seem be circumvented. No technical considerations are evident in the predictor variables nor the risk indicator. The system is trained to respond to certain variables in a monotonic way. That seems to me to explainably implement a threshold of risk acceptance rather than overcome the problem. I can only conclude that this signpost is also of no help to the applicant.
- 50 Since I can find no technical effect in the contribution of claim 1, the invention is considered to fall wholly within the field of a method for doing business and a program for a computer as such. Accordingly, it is excluded from patentability.

#### **Further claims**

- 51 At the hearing Dr Boff suggested that the inclusion of specific hardware features in certain of the pseudo-independent claims may be sufficient to provide a technical effect even if none were to be found in the method of claim 1. I note that the contribution for all of the claims is said to be the same, so this suggestion seems to potentially make the case for form over substance. Nonetheless I did agree to consider each of these claims in turn.
- 52 Claim 12 is directed to a risk assessment computing system comprising a processing device and a memory device configured to put into effect the method of claim 1. The scope of this claim is somewhat unclear as it does not include the client computing system which is configured to perform the access control step in part D of claim 1. I consider that this claim should be construed so that access control is not performed by the computing system of this claim. However controlling access is a fundamental part of the contribution identified above and I am prepared to regard the computed risk indicator transmitted to the client computing system (outside the scope of claim 12) as being determinative of whether access is granted and being specifically for that purpose.
- 53 Consequently, if the contribution is indeed shared between claims 1 & 12, only the form of claim 12 is effectively changed for this assessment. In paragraph 44 of *Aerotel*, Jacob LJ noted that "If an inventor claims a computer when programmed with his new program, it will not assist him if he alleges wrongly that he has invented the computer itself, even if he specifies all the detailed elements of a computer in his

claim.” As I found the contribution to lack technical effect when including the access control step, I do not consider that claim 12 possesses any necessary additional technical character to remove it from the exclusions. Even if I am wrong and the contribution of claim 12 lacks the access control determination feature, I cannot see how the omission of a feature of the contribution can add technical character. Either way, claim 12 would seem to be excluded under section 1(2).

54 Claim 13 reads as follows:

13. A method of accessing one or more interactive computing environments via a computer network, comprising the steps of:

a) transmitting, [by] a consumer computing system associated with a target entity, an access request to a client computing system configured to provide the one or more interactive computing environments;

b) transmitting, by the client computing system, a risk assessment query to a risk assessment computing system;

c) implementing, by the risk assessment computing system, the method of any of claims 1 to 11 in order to obtain an output risk indicator and transmit the output risk indicator to the client computing system;

d) determining, by the client computing system, whether to grant the access request of the consumer computing system.

55 There is an apparent clarity issue with this claim, at least on a literal interpretation, as it seems to require that the risk assessment computing system carries out the neural network training step of claim 1 every time a risk assessment query is submitted (because step (c) follows step (b)). On a purposive construction of this claim I see no substantive difference between it and claim 1; it is effectively of the same scope as claim 1 but with the subject of the claim being the access request transmitted by the consumer computing system as opposed to being received by the client computing system. The contribution is the same and it is therefore excluded.

56 Claim 14 is directed to a computer network comprising a risk assessment computing system according to claim 12, a consumer computing system and a client computing system, wherein the network is configured to put into effect the method of claim 13. Albeit that the network of this claim explicitly includes the various computers, I do not see any substantive difference between its scope and that of claims 1, 12 or 13 as I have construed them, nor to the contribution. The hardware aspects of the system are conventional; it is the application software that confers alleged novelty and the contribution lies in the software. Claim 14 is also excluded.

57 Claim 15 is directed to a non-transitory computer-readable storage medium having program code to cause a computing device to perform the method of any of claims 1 to 11. There are no additional technical features in this claim and it is also excluded<sup>9</sup>.

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<sup>9</sup> From the Manual of Patent Practice at section at section 1.15.1: in *Bloomberg LLP and Cappellini's Applications* [2007] EWHC 476 (Pat), Pumfrey J stated (at paragraph 9) that “[a] claim to a programmed computer as a matter of substance is just a claim to the program on a kind of carrier. A

58 No specific argument has been raised to suggest any of the remaining claims possess the necessary technical character to remove the applications from the exclusions of Section 1(2). Having considered the remaining dependent claims and the specification as a whole, I can find nothing which might provide the required technical contribution and so the application as a whole falls within excluded subject matter.

### **Conclusion**

59 Since the invention fails to comply with Section 1(2)(c) of the Act because it is a method for doing business and a program for a computer as such, the application is refused under Section 18 of the Act.

### **Appeal**

60 Any appeal must be lodged within 28 days after the date of this decision.

**Ben Buchanan**

Deputy Director, acting for the Comptroller

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program on a kind of carrier, which, if run, performs a business method adds nothing to the art that does not lie in excluded subject matter”.