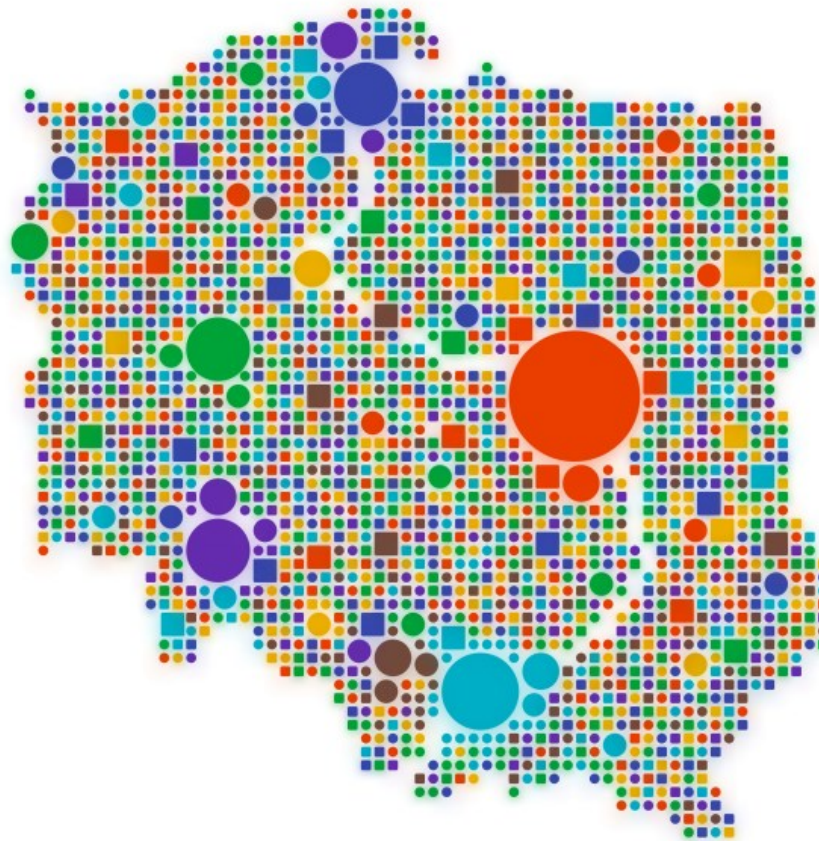# Changing IP in changing Europe

Panel session on Protection of AI-related technical creations: including IoT and Software-Based Patent Protection (with reference to the recent EPO guidelines)

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Map of the Polish AI

Source: Map of the Polish AI, Digital Poland Foundation, Warsaw 2019, ISBN: 978-83-951530-1-3
https://www.digitalpoland.org/assets/reports/map-of-the-polish-ai---2019-edition-i.p

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Where is the money in patenting AI?

Technology, by automation, makes certain tasks cheaper. The difference is a revenue of innovative ones. Patent are supposed to protect that kind of cash flow in industry.

- Steam engine did make „work" cheaper

- Computer did make „calculation" cheaper

- AI makes „prediction"* cheaper

*prediction in the meaning of taking the information you have and generate information you didn't previously have**

** I highly recommend consulting presentation given by Sean Murphy
http://aippi.org/wp-content/uploads/2018/10/PS-I-AI-Technical.pdf

2018 AIPPI World Congress – Cancun, September 23 - 26, 2018

AI related invention is a kind of computer implemented invention (CII)

- Software → not patentable (as such)

- Still can contribute to the novelty and inventive step if **„further technical effect"** is demonstrated

Further technical effect

- A computer program has a technical character if it produces a „**further technical effect**" when run on a computer

A „**technical effect**" going **beyond normal** physical interactions between the program (software) and the computer (hardware) on which it is run → „**further technical effect**".

Circulation of electrical currents in the computer is not sufficient.

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What exactly can be patented by the EPO in AI field?

- Specific technical implementation

		—	**G06N**	COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS [7]
D	**⚠**	**—**	**G06N 20/00**	*Machine learning* [2019.01]

- Technical application

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Specific implementation?

European publication server

Result list

Search

IPC symbol = **G06N20**
Kind Code = **A1** or **A2** or **A3** or **A8** or **A9** or **B1**
or **B2** or **B3** or **B8** or **B9**
Publication Date [**1978/12/20 - 2019/03/27**]

Contents

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Result list

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Services for experts

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Specific implementation?

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	Publication number[1]	Kind code	Publication date	XML[1]	PDF/ PCT	ZIP[1]		
☐	EP 3444759	A1	2019/02/20	XML	PDF	ZIP	Espacenet	Register
☐	EP 3457661	A1	2019/03/20	XML	PDF	ZIP	Espacenet	Register
☐	EP 3460685	A1	2019/03/27	XML	PDF	ZIP	Espacenet	Register
☐	EP 3460727	A1	2019/03/27	XML	PDF	ZIP	Espacenet	Register

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Technical applications

Rank	IPC Code	Frequency	Rank	IPC Code	Frequency
1	G06F	7529	11	G01S	999
2	G06K	6707	12	H04L	850
3	H04N	6444	13	G06Q	780
4	G10L	4763	14	H04B	733
5	G06T	3297	15	H04W	520
6	A61B	1687	16	G09G	482
7	H04M	1576	17	G02B	453
8	G01N	1410	18	G11B	445
9	H04R	1207	19	G08B	438
10	G06N	1129	20	G01B	430

Source: Kim, Juhwan & Jun, Sunghae & Jang, Dongsik & Park, Sangsung. (2018). Sustainable Technology Analysis of Artificial Intelligence Using Bayesian and Social Network Models. Sustainability. 10. 115. 10.3390/su10010115.

AI is a kind of computer implemented invention (CII)

Guidelines for Examination

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Guidelines for Examination in the European Patent Office

November 2018

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Part A – Guidelines for Formalities Examination

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AI specific guidelines chapter: G-II, 3.3.1

Classifying <u>abstract</u> data records or even "telecommunication network data records" without any indication of a technical use being made of the resulting classification is also not *per se* a technical purpose, even if the classification algorithm may be considered to have valuable mathematical properties such as robustness ([T 1784/06](#), app no. EP03396071.7).

EP03396071.7 claim 1

1. A method for classifying and selecting **records**, in which - records are received, the **fields** of which contain **values**,

- a value contained in at least one specified **field is read** (1002) from at least one received **record**,

- the records are selected to **classes** on the basis of a **classification structure**, and

which is <u>**characterized in that**</u> - at least one read field is identified,

- a **field-specifically** ordered **classification structure**, corresponding to the identified field is selected (1001),

- a reference value according to the value contained in the **field** is **searched** (1004) from the selected classification structure,

- at least one class, according to the conditions of the **classification structure**, corresponding to the reference value is read (1007) from each of the selected **classification structures**, and

- the record is selected (1112) to the class read from the **field-specifically** ordered **classification structure**.

What might be far enough from „abstract"? (EP2612481B1)

1. A method for **classifying traffic in a communication network**, wherein said method comprises the steps of:

• **capturing IP packets** (35) from said communication network;

• profiling said captured packets (36) by assigning one **vector** to each of said captured packets (36) according to a set of determined characteristics;

• calculating a set of classification values for each of said profiled packets (37) according to its IP header information and header information of a protocol encapsulated in the captured IP packets (36);

characterised in that the method further comprises the step of:

• rewriting said captured packets' (35) headers, including said calculated classification values on an IP header;

and **in that** the assigned vector is a tri-dimensional vector (C_1, C_2, C_3) where: • C_1 is the encapsulated protocol of said captured packet (35), as read from the IP header;

• C_2 is a vector that comprises information of the IP header data of said captured packet (35);

• C_3 is a vector that comprises information of the **header data of** the encapsulated protocol of said captured packet (35), whose dimension depends on C1 coordinate content.

Further troubles

- Even when „further technical effect" is demonstrated AI suffers from all the CII pains.
- Especially inventive step is difficult to demonstrate as at the moment everybody is trying to put AI in everything.

What exactly can be patented by the EPO in AI field?

- Specific technical implementation
- Technical application

Obvious design choices

Dependent claims do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the EPC with respect to inventive step, as they relate to **<u>obvious design choices</u>** that come within the customary practice of the person skilled in the art: (…).

Concluding thoughts

- Patentability of AI related inventions is no different than other CII

- Practice of the EPO is gradually adapted

- European Patent Institute provides a body dedicated for contacting EPO with CII related matters **"Information and Communication Technologies"** subcommittee of EPPC

Thank your for your attention

Marek Bury