Copyright issues triggered by AI

Presentation 1

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Dr. Reinhard Oertli, Attorney at Law, LL.M., Partner

- **Education**
  - Admitted to the bar in Zurich, Switzerland and New York, USA
  - University of Pennsylvania Law School, LL.M. (1989)
  - University of Zurich, Dr. iur. (1988)

- **Memberships**
  - International Association for the Protection of Intellectual Property Switzerland (AIPPI): Member of Board of AIPPI Switzerland; Member of Standing Committee on Digital Economy
  - INGRES- Swiss-American Chamber of Commerce, Chairman of the sub-committee on data economy

- **Languages**
  - German
  - English
  - Italian
  - French

- **Practice Areas**
  - Intellectual Property
  - ICT & Digital

EU Draft AI Act, Art. 3

- (1) ‘artificial intelligence system’ (AI system) means software that is developed with one or more of the techniques and approaches
  - (a) Machine learning approaches, including supervised, unsupervised and reinforcement learning, using a wide variety of methods including deep learning;
  - (b) Logic- and knowledge-based approaches, including knowledge representation, inductive (logic) programming, knowledge bases, inference and deductive engines, (symbolic) reasoning and expert systems;
  - (c) Statistical approaches, Bayesian estimation, search and optimization methods.
- and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with

Nature of AI

- In AI, everything is artificial but the intelligence
- Cognitive computing
- AI potentially affects all aspects of IP
- An AI world requires a new IP management & strategy

Types of AI

- Narrow AI: Deep learning, single-task, single-domain. Superhuman accuracy, huge mount of data, lac of trust, , high computational demands, high training requirements, data must be made AI-ready
- Broad AI. Neuro-symbolic AI, multi-task, multi-domain, multi-modal, superhuman breadth
- General AI: true neuro-AI, cross-domain learning and reasoning, broad autonomy with moral reasoning
- 'weak AI' hypothesis: machines can possibly act intelligently (or, perhaps better, act as if they were intelligent, simulating thinking)
- 'strong AI' hypothesis: machines are actually thinking (have a mind that is representing a human mind)

Types of AI

Assisting AI:

- Human remains involved in the process of the "insights" to be generated by AI.
- AI is looked over its shoulder (control factor).
  - The "human factor" is integrated into the process, which in many jurisdictions - at least in principle and currently - means that the conditions for copyright and patent protection in the output of AI is fulfilled.

Autonomous AI:

- human defines the problem, AI machine defines the process and comes up with the solution

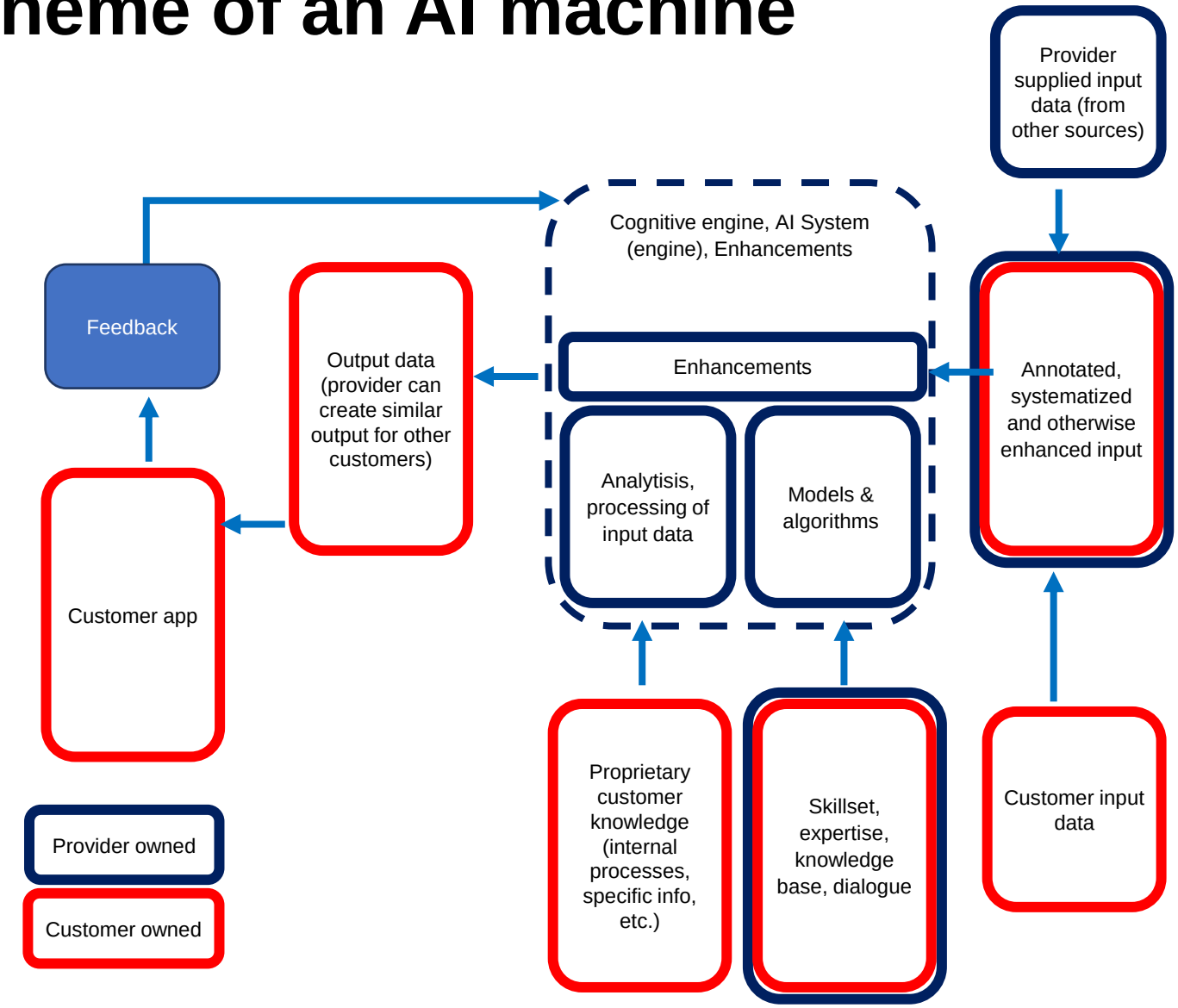
Rachael (Blade Runner)

- Does Rachael know that she is a replicant? Are her ideas and feelings truly hers? What does it mean to her to know that all replicants will retire (die)? If she is AI, is she assisting AI or autonomous AI?
- If she is a creature, is she copyright proteded?

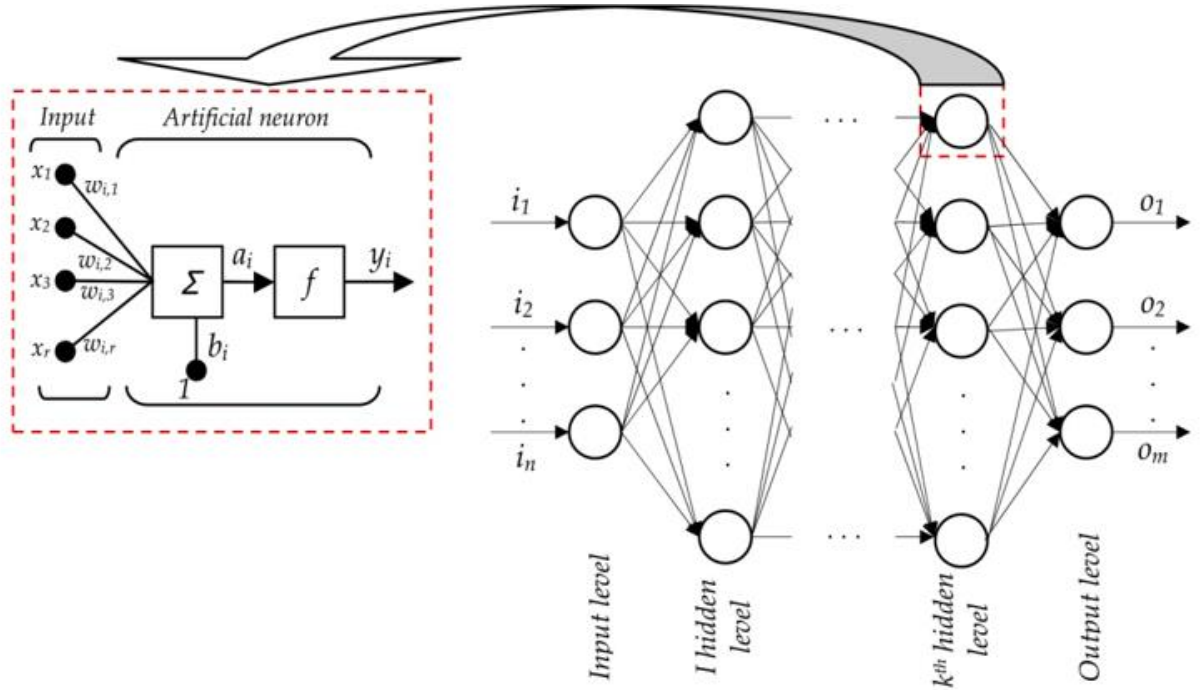
Dr. Eldon Tyrell (Blade Runner)

- Dr. Tyrell created Rachael.
- But does he enjoy copyright protection in her?
- Does he enjoy copyright protection in her output (emotions, child)?

Basic Scheme of an AI machine



Basic Scheme of an Artificial Neuronal Network



AI of the future

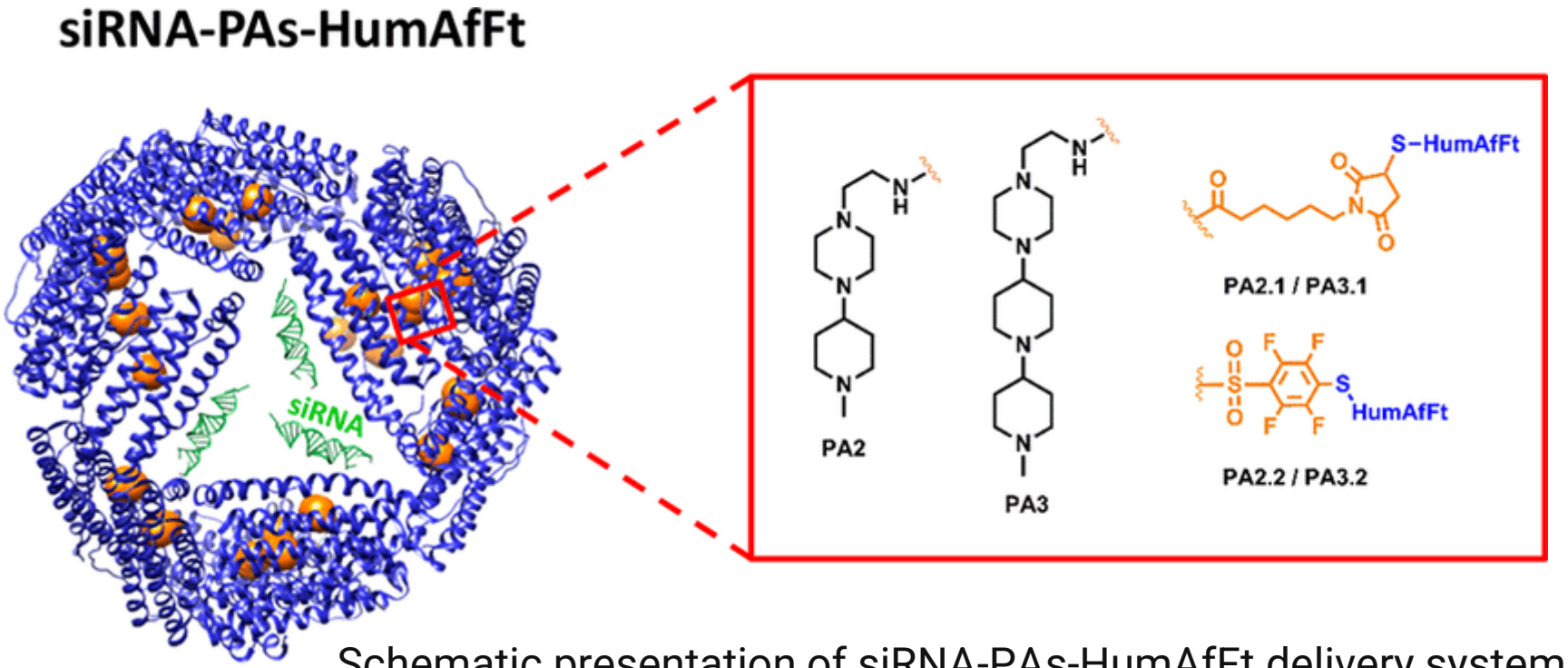
- AI that transfers knowledge gained in one field into another field, that experiments with novel approaches, that tries out things that have no basis in the input data.
- Modelling human dilemmas, controversy, clash of axioms, fundamentals and values, principles, joy, playfulness, emotions, understanding the emotions of others, compassion, willingness to help, appreciation for the arts, for its own creations and its own creator, notion of death (retirement).
- DABUS: Brain trauma and near-death experience are the basis of truly creative and contemplative AI. The more intense periodic hallucinations, false perceptions, attention deficits, and inability to differentiate fantasy from reality are, the more original is the creative output. Feelings or sentience are the basis of the ability to produce not only complex concepts, but also of the awareness for the consequences of these concepts.

- Increase trust in and predictability of ~~Rachael~~ AI

The language of code

- IBM Project-CodeNet 14 mio. Code samples 55 mio. Lines of code, 55+ programming languages,
- github.com/IBM/Project_CodeNet
- Project CodeNet uses algorithms to extract context from program code with sequence-to-sequence models, just like what is applied in human languages,
- machine understanding of code as opposed to machine processing of code.

The language of chemistry I

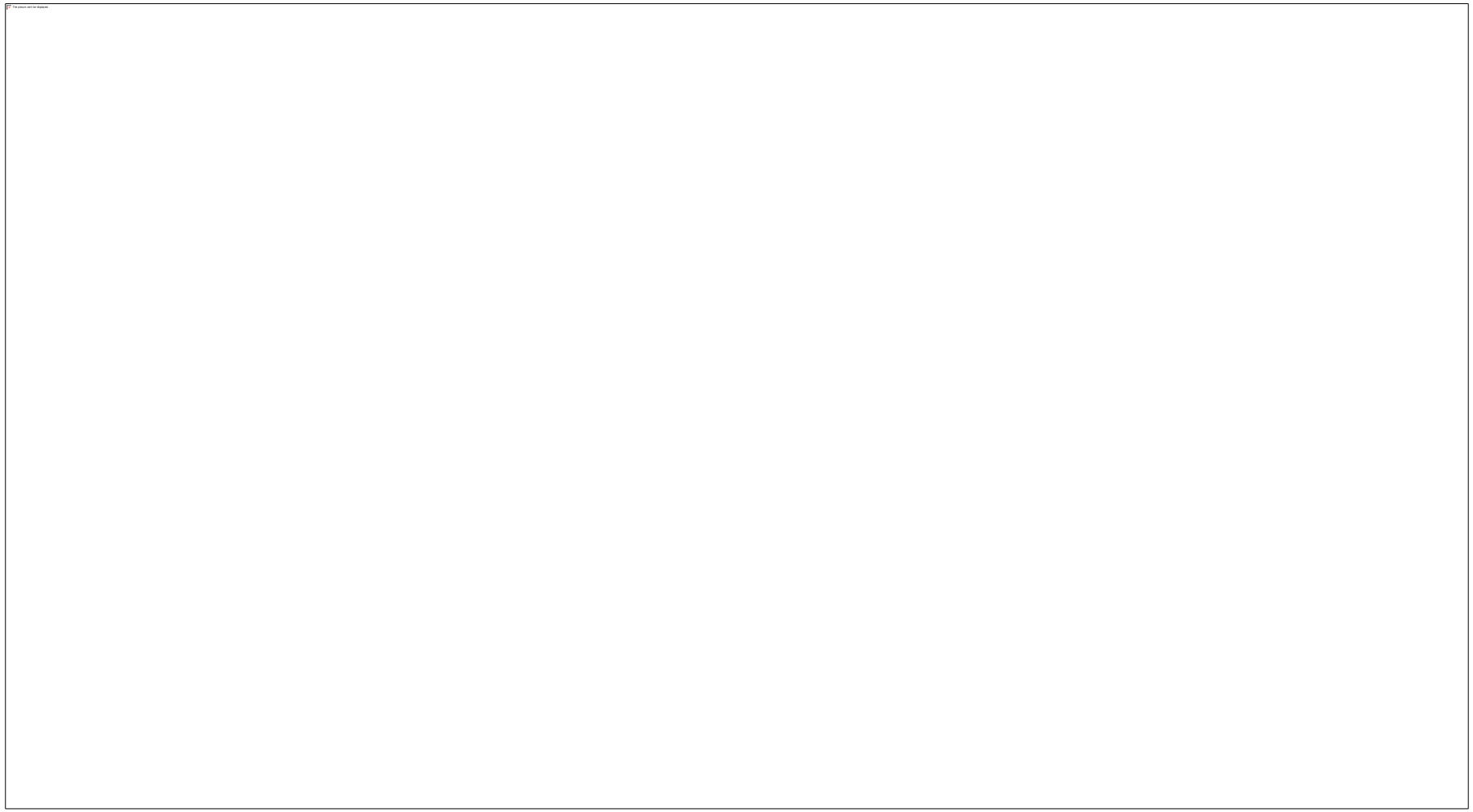


Schematic presentation of siRNA-PAs-HumAfFt delivery systems.

The language of chemistry II

- IBM RXN for chemistry, free AI Tool in the cloud for digital chemistry
- 4 mio. data sets allow predictions for the most likely outcome of a chemical reaction, retrosynthesis and chemical synthesis
- Can be used in an automatic mode (does the job itself) or an interactive mode (acts as an assistant, the researcher chooses the favourite option from the recommendations proposed by RXN)
- Cloud-Based AI-driven autonomous labs. Generator synthesized and validated chemical compounds.
- AI-enriched simulation: known data augmented with automated atomistic and physiochemical property simulation
- Generative modes: candidates generated with targeted properties

The language of chemistry



The language of human behaviour

- (1) identify individual and his/her relevant behavior, (2) determine relevant peer group, (3) determine behavior patterns, targets, motivators etc. that work in peer group, (4) place recommendations to individual regarding behavior, targets, etc., (5) evaluate reception of and compliance with recommendations by individual

Individual follows recommendation and buys white shirt, dotted tie and Fedora hat. Does he become a work of art?

IP rights management and AI

- enforcement of IP rights through AI machines (Legal Tech)
- Use of recognition tools to monitor infringement
  - Micro-image recognition to monitor copyright infringement

IP Infringement by AI machines

- Processing: IP protected material use as training data for training an AI machine. (Text and data mining exception to copyright (Art. 3(4) EU DSM Directive 2019/790).
- Output:
  - A customer designs a 3D printed car that violates copyright of Porsche, Ferrari etc.

AI protection in General

- Copyright: code, becomes obsolete
- Patents: functional blocks, architectures/layers, methodology, user-machine interaction, processes
- Design: GUI
- Secret Know-how: methodology, algorisms (positional notation system)
- Copyright, design: output of AI machine

AI protection in General

- What do you want to protect, what do you want to lay open (interfaces, open source code)?
- interconnectability or closed, proprietary universe?

AI copyright protection in General

- More flexible terms of protection (duration of protection)
- for copyright protection 70 years after the life of the author does not make sense for AI created copyrighted works, since the author is not bound to die and not alive in the first place
- Register of copyright protected software

AI copyright protection in General

Sharing economy:

- In order to share, you have to own
- Copyleft depends on copyright
- IP right: Shift from monopolizing to documentation and allowing a fair and transparent sharing and collaboration
- Free-riders are not invited to the party

Copyright in output of AI

- CJEU in Infopaq, BSA and Football Association Premier League: the criterion of "the author's own intellectual creation".
- Copyright requires a scope for free, creative decisions in which the personality of the author can express himself or herself.
- CJEU in Painer: relevant criteria are whether the work reflects the author's personality and expresses his free and creative choices in the production of the work.
- CJEU in Football Dataco: [the author].. expresses .. originality in the selection or arrangement of the data which the database contains.
- The author is the one who intends to fill the available scope by his or her creative decisions.
  It is irrelevant how and through which tools and aids he or she does so.

Copyright in output of AI

- The use of the computer as a tool does not stand in the way of human creative activity, if the use of the computer in the creation of a work involves selection and compilation by the composer to a considerable extent.
- Authors are those who create the essential basic patterns, set a frame and a goal for the action of the AI system.
- The smaller the creative contribution, the more limited the scope of protection.
- No copyrightable work if created by machines autonomously, based solely on an idea but without human interference in any level of the creation process.

Copyright in output of AI

- Machines and apparatus as such cannot be the authors of a work; the author of a work can only be one or several natural persons.
- Response GEMA (Germany): No registration of a computer generated work possible.
- SACEM: has registered AIVA (Artificial Intelligence Virtual Artist) Music as composer
- Response SUISA (Switzerland): Interesting question.

AI and Copyright in Applied Art

- **Seilzirkus** (Spacenet), decision of the German Federal Supreme Court I ZR 53/10 of 12 May 2011
- …. the aesthetic effect of the design can only justify copyright protection to the extent that it is not owed to the purpose of use and technically conditioned, but is based on an artistic achievement.
- The result counts, not the subjective choices made by the author. The set-up can be done with a purely functional goal, provided the result is not or not exclusively technically conditioned and the work creates the impression that remaining leeway had been used to create an impression of artistic originality.

US: copyright protection afforded a computer program may extend to the program's output

- REARDEN LLC, et al., Plaintiffs, v. THE WALT DISNEY COMPANY, et al., Defendants., United States District Court, N.D. California, February 21, 2018.
- The Ninth Circuit recently acknowledged that some authorities "suggest that the copyright protection afforded a computer program may extend to the program's output if the program `does the lion's share of the work' in creating the output and the user's role is so `marginal' that the output reflects the program's contents." Design Data Corp. v. Unigate Enter., Inc., 847 F.3d 1169, 1173 (9th Cir. 2017) (quoting Torah Soft Ltd. v. Drosnin, 136 F. Supp. 2d 276, 283 (S.D.N.Y. 2001).
- The Plaintiff, Rearden, however, has not met the burden to show *in casu* that the computer program did the lion’s share.

China: Copyright only vests in works by human authors

- Beijing Internet Court in China, *Feilin v Baidu,* (2018) Beijing 0491 Civil No. 239.
- The court held that the originality of the content itself would not be a sufficient condition for that content to qualify as a work in a copyright sense. Under the existing law, a work shall be created by a natural person. Although the content generated with intelligent software is increasingly similar to work produced by a natural person in terms of content, form, and expression thereof, it is not possible (or desirable) to break the fundamental tenets of copyright law, including the notion of authorship.
- the report did not pass on any original expression of the developer. Therefore, the software developer does not create the report. …. the report is generated automatically by the 'visualisation' function and does not pass on the original expression of idea or feeling of the software user. Thus, the court held that neither a software developer nor a user could be regarded as the author of the report..

China: Copyright only vests in works by human authors

1. Under existing Chinese copyright law, an AI-generated production could not be regarded as a 'work' in a copyright sense, irrespective of whether it is original; only a production by a natural person could be regarded as a ‘work’.
2. AI software could not be considered an author; a notation should be added indicating that the production at issue was created/generated by AI software.
3. A software developer or a software user could not be the author because they do not create or generate production.
4. Although the AI-generated work cannot be protected by copyright, the investment in the generation of the production is still deserving of some sort of protection.
5. The investment of a software developer is already rewarded with payment from the use of the software. Therefore, there is no need to protect their interests.
6. The software user shall be given some protection so that they are motivated to distribute and generate the production, and they are willing to pay for the use of software.

China: Copyright only vests in works by human authors

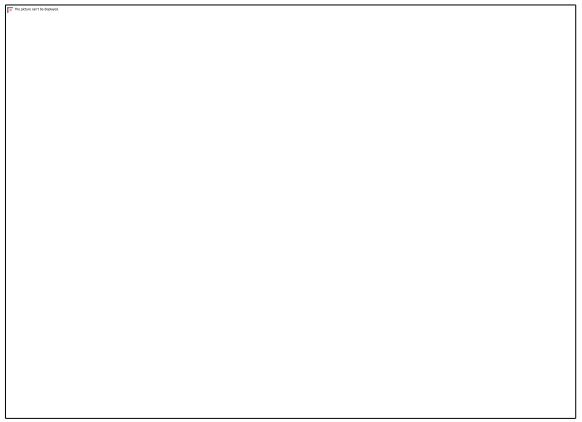
- Shenzhen Tencent v Yinxun, Nanshan District Court of Guangzhou Province.
- The “creating group” of individuals ran the software ‘Dreamwriter’. The process of creation of the article by means of the software consists of four phases, namely, data collection triggering and writing (through the writing engine of the software), checking, and distributing.
- The selection and arrangement was an act of intellectual activity of the members of the creating group and such activity had a direct connection with the specific expression of the work.
- The creating group was organised and supervised by plaintiff.
- Plaintiff was thus deemed the author of the article and entitled to copyright.

AI as programmer of the code of software

- AI system can write code, but requires a lot of details to be written down about aim and intent.
- AI can propose suitable patterns for achieving specific results of a program.
- So the input becomes more and more high-level, but remains crucial.

Presumption of Authorship

- CJEU in Luksan case, C-277/10: Member states are free to introduce a presumption of transfer, of rights to exploit the work, provided that such a presumption can be rebutted, i.e., the authors can agree otherwise.
- Presumption in favour of whom?
  - The programmer of the basic AI system?
  - The user of the AI system?
  - The one who defines the goal and objective?
  - The one who controls the input?
  - The one who defines the self-learning process?
  - The Company which sets up the AI system for producing the desired objective, organizes the related activities and pays for it?



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Thank you for your time and interest