Know the Legal Issues Vital to a Successful Startup Ronald L. Chichester, Esq. Ronald Chichester, P.C. Presented to the Plano Software Entrepreneurs December 4, 2019

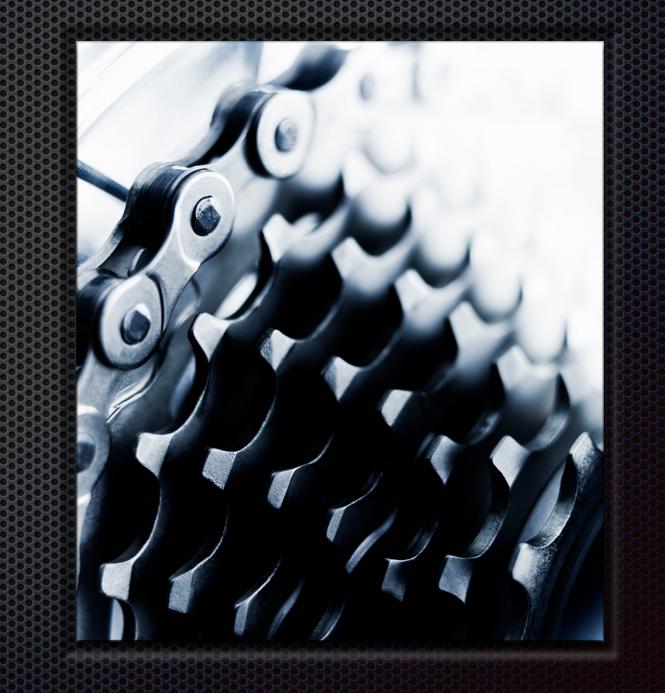
Disclaimer

l am a lawyer...

l am a lawyer... ...but l'm not <u>your</u> lawyer... I am a lawyer... ...but I'm not *your* lawyer... so this is *not* legal advice I am a lawyer... ...but I'm not *your* lawyer... so this is *not* legal advice

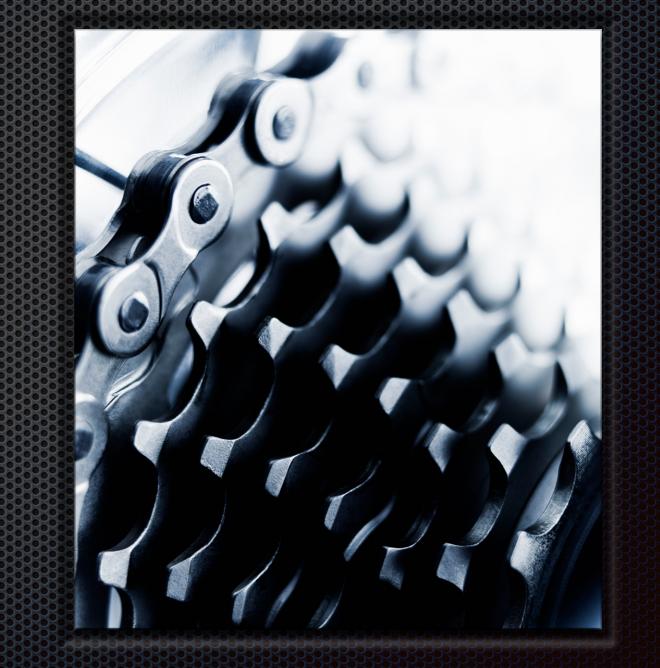
(Because if it was, it would be followed with a bill.)

Overview



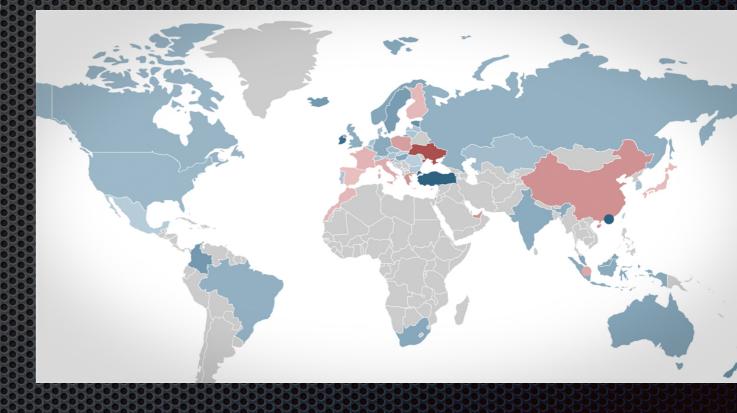
Overview

- Jurisdiction & Incorporation
- Trademarks
- Copyrights
- Patents
- Trade Secrets
- Software Licensing
- E-Commerce
- Computer Security & Privacy
- Putting it All Together



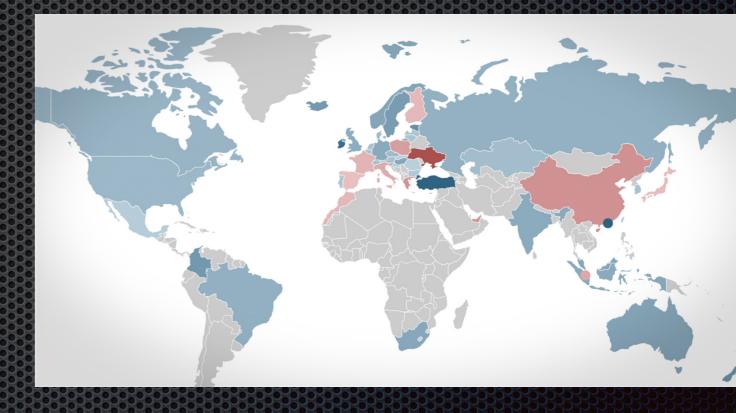


You can be sued where:

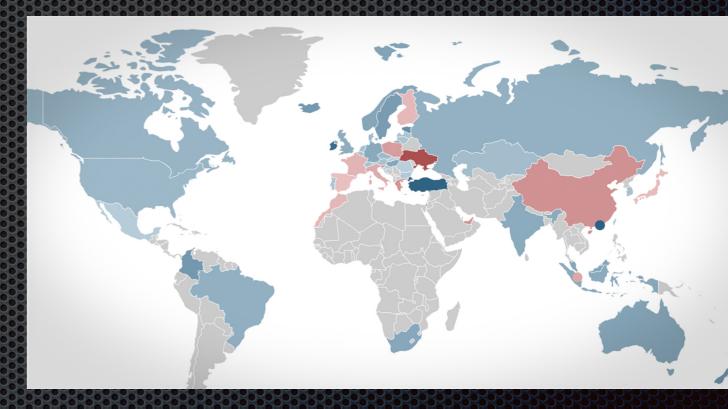


You can be sued where:

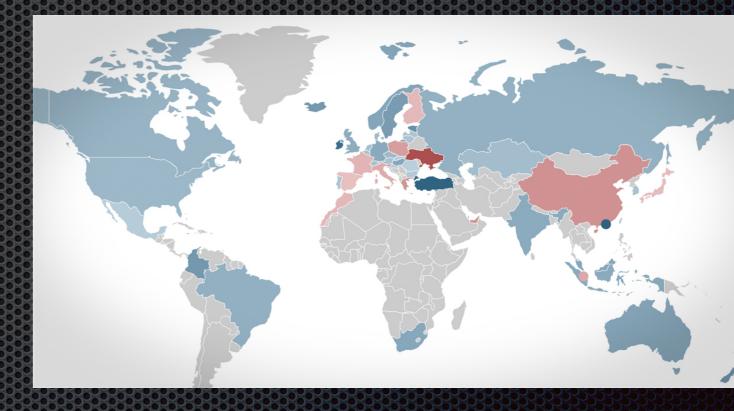
You're incorporated



- You can be sued where:
 You're incorporated
 - Your servers are located

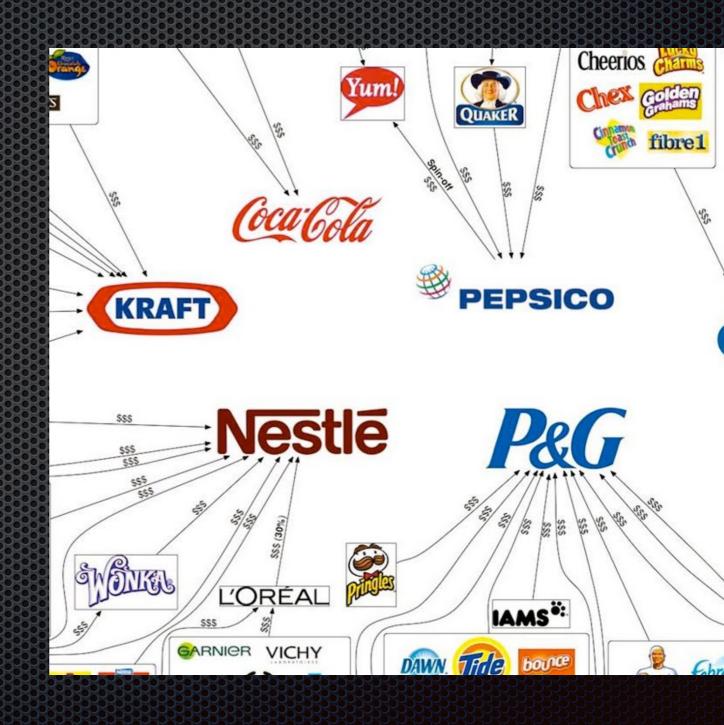


- You can be sued where:
 - You're incorporated
 - Your servers are located
 - Your customers
 transact the business





Tax issues



- Tax issues
- Liability issues



- Tax issues
- Liability issues
- Where to incorporate?



- Tax issues
- Liability issues
- Where to incorporate?
- What to incorporate as?



- Tax issues
- Liability issues
- Where to incorporate?
- What to incorporate as?
- Careful: Default may be a partnership



This part is about intellectual property

So let's have a few words about intellectual property rights...

There are five types...

There are five types...

- Trademarks
- Copyrights
- Patents
- Trade Secrets
- Right of Publicity

There are five types...

- Trademarks
- Copyrights
- Patents
- Trade Secrets
- Right of Publicity

IP rights are not positive rights

IP rights are exclusionary

You can have IP rights to data and code on your server...

...Your *customers* may have IP rights to data on your server

(In some cases...)

You *can* be held responsible for *their* data on *your* server



 Trademarks identify the <u>source</u> of the software



- Trademarks identify the software
 - Can be a word, logo, design, or expression



- Trademarks identify the <u>source</u> of the software
 - Can be a word, logo,
 design, or expression
 - Must be distinguishable from other vendors





 Trademarks are never a noun or a verb



- Trademarks are **never** a **noun** or a **ven**
 - Must be used as an adjective or adverb



- Trademarks are new a
 noun or a verb
 - Must be used as an investigation of the second second
 - ... lest they go generic





 Descriptive marks are a problem



- Descriptive marks are a problem
- Arbitrary marks are better but require more marketing



- Descriptive marks are a problem
- Arbitrary marks are better but require more marketing
- You might want the "trademark two-step"



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 Copyrights protect the expression of an idea that is fixed in a tangible media by an author

but formal registra ugh some jurisdictions do apply ogh some run CORVIERATION Sales CORVIERATION OF an original wo of an original wo reator of an original wo it is the wo

- Copyrights protect the expression of an idea that is fixed in a tangible media by an author
- Most common IP right for software

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- Copyrights protect the
 expression of an idea that
 is fixed in a tangible media
 by an author
- Most common IP right for software
- Registration is inexpensive, but ideas are not protected

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Four types of copyrights:

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Original work

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Four types of copyrights:
 Original work

Derivative work

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Four types of copyrights:

Original work

Derivative work

Collective work



Four types of copyrights:
 Original work

Derivative work
 Collective work

Compilation

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 Standard for infringement is "substantial similarity"

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Standard for infringement is "substantial similarity"

 Often requires access to source code

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- Standard for infringement is "substantial similarity"
 - Often requires access
 to source code
 - Hard to know opponent has your code until *after* a lawsuit is filed



out formal registra ugh some jurisdictions do appril ogh some fun COPYRIGHT is allow COPYRIGHT of an original wo reator of an original wo it is the wo

 Use of copyright requires permission from owner

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- Use of copyright requires permission from owner
- Requirements for permission can adversely impact your exit strategy

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- Use of copyright requires permission from owner
- Requirements for
 permission can adversely
 impact your exit strategy
 - Common problem for startups





12) United States Patent Ayala

SYSTEM AND METHOD FOR DEVELOPING ARTIFICIAL INTELLIGENCE

Inventor: Francisco J. Ayala, 6715 Woodland Dr., Dallas, TX (US) 75225

Subject to any disclaimer, the term of this) Notice patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

21) Appl. No.: 10/755,946

76)

56)

22) Filed: Jan. 13, 2004

65) **Prior Publication Data**

US 2004/0143559 A1 Jul. 22, 2004

Related U.S. Application Data

60) Provisional application No. 60/440,883, filed on Jan. 17, 2003.

51)	Int. Cl.
	G06F 15/18 (2006.01)
52)	U.S. Cl
58)	Field of Classification Search 706/26,
	706/13
	See application file for complete search history.

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5,136,686 A	8/1992	Koza
5,140,530 A	8/1992	Guha et al.
5,214,746 A	5/1993	Fogel et al.
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5,249,259 A	9/1993	Harvey
5,283,855 A	2/1994	Motomura et al.
5,349,646 A	9/1994	Furuta et al.
5,375,250 A	12/1994	Van den Heuvel

(10) Patent No.:	US 7,139,740 B2
(45) Date of Patent:	Nov. 21, 2006

5,428,710 A	6/1995	Toomarian et al.
5,452,402 A	9/1995	Sakiyama et al.
5,455,891 A	10/1995	Hirotsu et al.
5,459,817 A	10/1995	Shima
5,515,477 A	5/1996	Sutherland
5 566 273 A	10/1006	Huang et al

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Kobayashi et al, "A New Indirect Encoding Method with Variable

Length Gene Code to Optimize Neural Network Structures", IEEE, IJCNN, Jul. 1999.*

(Continued)

Primary Examiner—George Davis (74) Attorney, Agent, or Firm-Gardere Wynne Sewell LLP

ABSTRACT

In a method and system for developing a neural system adapted to perform a specified task, a population of neural systems is selected, each neural system comprising an array of interconnected neurons, and each neural system is encoded into a representative genome. For a given genome, a processing gene encodes a neural output function for each neuron, and the connections from each neuron are encoded by one or more connection genes, each connection gene including a weight function. The given neural system is operated to perform the specified task during a trial period, and performance is continually monitored during the trial period. Reinforcement signals determined from the continually monitored performance are applied as inputs to the functions respectively associated with each of the processing genes and connection genes of the given neural system. At the conclusion of the trial period, the fitness of the given neural system for performing the specified task is determined, usefully as a function of the reinforcement signals applied during the trial period. A set of genomes, respectively representing the neural systems of the population that have been determined to have the highest fitness values, are selected for use in forming a new generation of neural

A patent is a grant by a government conferring a temporary monopoly on the making, using, selling (or offering to sell) an invention described in a valid claim

	US007139740B2
United States Patent Ayala	(10) Patent No.: US 7,139,740 B2 (45) Date of Patent: Nov. 21, 2006
SYSTEM AND METHOD FOR DEVELOPING ARTIFICIAL INTELLIGENCE	5,428,710 A 6/1995 Toomarian et al. 5,452,402 A 9/1995 Sakiyama et al. 5,455,891 A 10/1995 Hirotsu et al.
Inventor: Francisco J. Ayala, 6715 Woodland Dr., Dallas, TX (US) 75225	5,459,817 A 10/1995 Shima 5,515,477 A 5/1996 Sutherland 5,566,273 A 10/1996 Huang et al.
Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	
Appl. No.: 10/755,946	Kobayashi et al, "A New Indirect Encoding Method with Variable Length Gene Code to Optimize Neural Network Structures", IEEE, IJCNN, Jul. 1999.*
Filed: Jan. 13, 2004	(Continued)
Prior Publication Data US 2004/0143559 A1 Jul. 22, 2004	Primary Examiner—George Davis (74) Attorney, Agent, or Firm—Gardere Wynne Sewell LLP
Related U.S. Application Data	(57) ABSTRACT
Provisional application No. 60/440,883, filed on Jan. 17, 2003.	a method and system for developing a neural system adapted to perform a specified task, a population of neural
Int. Cl. G06F 15/18 (2006.01) U.S. Cl. 706/26; 706/13 Field of Classification Search 706/26, 706/13 See application file for complete search history.	a processing gene encodes a neural output function for each
References Cited	operated to perform the specified task during a trial period,
U.S. PATENT DOCUMENTS 4,979,126 A 12/1990 Pao et al. 1,994,982 A 2/1991 Duranton et al. 5,093,899 A 3/1992 Hiraiwa 5,136,686 A 8/1992 Koza 5,140,530 A 8/1992 Guha et al. 5,214,746 A 5/1993 Fogel et al. 5,245,696 A 9/1993 Stork et al. 5,249,259 A 9/1993 Harvey	and performance is continually monitored during the trial period. Reinforcement signals determined from the continu- ally monitored performance are applied as inputs to the functions respectively associated with each of the processing genes and connection genes of the given neural system. At the conclusion of the trial period, the fitness of the given neural system for performing the specified task is deter- mined, usefully as a function of the reinforcement signals applied during the trial period. A set of genomes, respec- tively representing the neural systems of the population that
	Ayala SYSTEM AND METHOD FOR DEVELOPING ARTIFICIAL INTELLIGENCE Inventor: Francisco J. Ayala, 6715 Woodland Dr., Dallas, TX (US) 75225 Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. Appl. No.: 10/755,946 Filed: Jan. 13, 2004 Prior Publication Data US 2004/0143559 A1 Jul. 22, 2004 Related U.S. Application Data Provisional application No. 60/440,883, filed on Jan 17, 2003. Int. Cl. Gd6F 15/18 (2006.01) U.S. Cl. 706/26; 706/13 Field of Classification Search 706/26; 706/13 See application file for complete search history. References Cited U.S. PATENT DOCUMENTS 4,979,126 A 12/1990 Pao et al. 4,994,982 A 2/1991 Duranton et al. 5,093,899 A 5,136,686 A 8/1992 Koza 5,140,530 A 8/1992 Gogel et al. 5,214,746 A 5/1993 Fogel et al. 5,245,696 A 9/1993 Stork et al.

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5.349.646 A

5.375.250 A

2/1994 Motomura et al

12/1994 Van den Heuvel

9/1994 Furuta et al.

A patent is a grant by a government conferring a temporary monopoly on the making, using selling (or offering to sell) an invention described in a valid claim

The "patent bargain"

12) United States Patent US 7.139.740 B2 (10) Patent No.: Ayala (45) Date of Patent: Nov. 21, 2006 SYSTEM AND METHOD FOR DEVELOPING 5,428,710 A 6/1995 Toomarian et al ARTIFICIAL INTELLIGENCE 5,452,402 A 9/1995 Sakiyama et al. 5,455,891 A 10/1995 Hirotsu et al. 5,459,817 A 10/1995 Shima Inventor: Francisco J. Ayala, 6715 Woodland 5,515,477 A 5/1996 Sutherland Dr., Dallas, TX (US) 75225 5,566,273 A 10/1996 Huang et al. Subject to any disclaimer, the term of this) Notice (Continued) patent is extended or adjusted under 35 OTHER PUBLICATIONS U.S.C. 154(b) by 0 days. Kobayashi et al, "A New Indirect Encoding Method with Variable 21) Appl. No.: 10/755,946 Length Gene Code to Optimize Neural Network Structures", IEEE, IJCNN, Jul. 1999.* Filed: Jan. 13, 2004 (Continued) **Prior Publication Data** Primary Examiner-George Davis US 2004/0143559 A1 Jul. 22, 2004 (74) Attorney, Agent, or Firm-Gardere Wynne Sewell LLP **Related U.S. Application Data** ABSTRACT (57) 60) Provisional application No. 60/440,883, filed on Jan In a method and system for developing a neural system 17, 2003. adapted to perform a specified task, a population of neural systems is selected, each neural system comprising an array Int. Cl. of interconnected neurons, and each neural system is G06F 15/18 (2006.01)encoded into a representative genome. For a given genome, U.S. Cl. .. 706/26; 706/13 a processing gene encodes a neural output function for each 58) Field of Classification Search 706/26. neuron, and the connections from each neuron are encoded 706/13 by one or more connection genes, each connection gene See application file for complete search history. including a weight function. The given neural system is operated to perform the specified task during a trial period, **References** Cited and performance is continually monitored during the trial U.S. PATENT DOCUMENTS period. Reinforcement signals determined from the continually monitored performance are applied as inputs to the 4,979,126 A 12/1990 Pao et al. functions respectively associated with each of the processing 4,994,982 A 2/1991 Duranton et al genes and connection genes of the given neural system. At 5.093.899 A 3/1992 Hiraiwa 5.136.686 A 8/1992 Koza the conclusion of the trial period, the fitness of the given 5.140.530 A 8/1992 Guha et al. neural system for performing the specified task is deter-5,214,746 A 5/1993 Fogel et al. mined, usefully as a function of the reinforcement signals 5.245.696 A 9/1993 Stork et al. applied during the trial period. A set of genomes, respec-5,249,259 A 9/1993 Harvey

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12) United States Patent Ayala

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Inventor: Francisco J. Ayala, 6715 Woodland Dr., Dallas, TX (US) 75225

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Useful disclosure of the technology is mandatory

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3/1992 Hiraiwa 8/1992 Koza 8/1992 Guha et al. 5/1993 Fogel et al. 9/1993 Stork et al. 9/1993 Harvey 2/1994 Motomura et al. 9/1994 Furuta et al.	ally monitored performance are applied as inputs to the functions respectively associated with each of the processing genes and connection genes of the given neural system. At the conclusion of the trial period, the fitness of the given neural system for performing the specified task is deter- mined, usefully as a function of the reinforcement signals applied during the trial period. A set of genomes, respec- tively representing the neural systems of the population that have been determined to have the highest fitness values, are selected for use in forming a new generation of neural
	Dr., Dallas, TX (US) 75225 Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. : 10/755,946 Jan. 13, 2004 Prior Publication Data 0143559 A1 Jul. 22, 2004 lated U.S. Application Data al application No. 60/440,883, filed on Jan. 18 (2006.01)

- Useful disclosure of the technology is mandatory
- After the Supreme Court's decision in *Alice*, patents for software are harder to get, but still possible

		US007139740B2
Unite ^{Ayala}	d States Patent	 (10) Patent No.: US 7,139,740 B2 (45) Date of Patent: Nov. 21, 2006
	AND METHOD FOR DEVELOPING IAL INTELLIGENCE	5,428,710 A 6/1995 Toomarian et al. 5,452,402 A 9/1995 Sakiyama et al. 5,455,891 A 10/1995 Hirotsu et al.
Inventor:	Francisco J. Ayala, 6715 Woodland Dr., Dallas, TX (US) 75225	5,459,817 A 10/1995 Shima 5,515,477 A 5/1996 Sutherland 5,566,273 A 10/1996 Huang et al.
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5.375.250 A

2/1994 Motomura et al

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9/1994 Furuta et al.

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- Useful disclosure of the technology is mandatory
- After the Supreme Court's decision in Alice, patents for software are harder to get. but still possible
- Extent of claims known only after disclosure of the technology to the public

2) United States Patent US 7.139.740 B2 (10) Patent No.: Ayala (45) Date of Patent: Nov. 21, 2006 SYSTEM AND METHOD FOR DEVELOPING 5,428,710 A 6/1995 Toomarian et al ARTIFICIAL INTELLIGENCE 5,452,402 A 9/1995 Sakiyama et al. 5,455,891 A 10/1995 Hirotsu et al. 5,459,817 A 10/1995 Shima Inventor: Francisco J. Ayala, 6715 Woodland 5,515,477 A 5/1996 Sutherland Dr., Dallas, TX (US) 75225 5,566,273 A 10/1996 Huang et al. Subject to any disclaimer, the term of this) Notice (Continued) patent is extended or adjusted under 35 OTHER PUBLICATIONS U.S.C. 154(b) by 0 days. Kobayashi et al, "A New Indirect Encoding Method with Variable 21) Appl. No.: 10/755,946 Length Gene Code to Optimize Neural Network Structures", IEEE, IJCNN, Jul. 1999.* 22) Filed: Jan. 13, 2004 (Continued) **Prior Publication Data** Primary Examiner-George Davis US 2004/0143559 A1 Jul. 22, 2004 (74) Attorney, Agent, or Firm-Gardere Wynne Sewell LLP **Related U.S. Application Data** (57) ABSTRACT 60) Provisional application No. 60/440,883, filed on Jan In a method and system for developing a neural system 17, 2003. adapted to perform a specified task, a population of neural systems is selected, each neural system comprising an array Int. Cl. of interconnected neurons, and each neural system is G06F 15/18 (2006.01)encoded into a representative genome. For a given genome, 52) U.S. Cl. 706/26: 706/13 a processing gene encodes a neural output function for each 58) Field of Classification Search 706/26. neuron, and the connections from each neuron are encoded 706/13 by one or more connection genes, each connection gene See application file for complete search history including a weight function. The given neural system is operated to perform the specified task during a trial period, **References** Cited and performance is continually monitored during the trial U.S. PATENT DOCUMENTS period. Reinforcement signals determined from the continually monitored performance are applied as inputs to the 4,979,126 A 12/1990 Pao et al functions respectively associated with each of the processing 4,994,982 A 2/1991 Duranton et al genes and connection genes of the given neural system. At 5.093.899 A 3/1992 Hiraiwa 5.136.686 A 8/1992 Koza the conclusion of the trial period, the fitness of the given 5.140.530 A 8/1992 Guha et al. neural system for performing the specified task is deter-5,214,746 A 5/1993 Fogel et al. mined, usefully as a function of the reinforcement signals 5.245.696 A 9/1993 Stork et al. applied during the trial period. A set of genomes, respec-5,249,259 A 9/1993 Harvey tively representing the neural systems of the population that 5,283,855 A 2/1994 Motomura et al have been determined to have the highest fitness values, are 5.349.646 A 9/1994 Furuta et al. selected for use in forming a new generation of neural

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12/1994 Van den Heuvel

76)

65)

51)

56)



 A trade secret is just about any kind of information that affords a competitive advantage



- A trade secret is just about any kind of information that affords a competitive advantage
- Cheap to keep but some effort is required



- A trade secret is just about any kind of information that affords a competitive advantage
- Cheap to keep but some
 effort is required
- Need employee agreements



Software Licensing



Software Licensing

Closed Source



Closed Source

Open Source



- Closed Source
 Open Source
- Mixed Open/Closed



- Closed Source
 Open Source
 Mixed Open/Closed
- Architect the Business
 Model



- Closed Source
 Open Source
 Mixed Open/Closed
 Architect the Business
 Model
- Architect the Functional Model





Website design essential



Website design essential

Flashy UI (\$\$\$\$)



Website design essential

- Flashy UI (\$\$\$\$)
- Integrated Database



Website design essential

Flashy UI (\$\$\$\$)

Integrated Database

Contracting Process



Website design essential

Flashy UI (SSSS)

Integrated Database

Contracting Process

Security/Privacy



Website design essential

Flashy UI (\$\$\$\$)

Integrated Database

Contracting Process

* Security/Privacy

PCI Compliance



Website design essential

Flashy UI (\$\$\$\$)
 Integrated Database
 Contracting Process
 Security/Privacy
 PCI Compliance



Customer Support



Website + ToS + PP



Website + ToS + PP

Development Servers



- Website + ToS + PP
- Development Servers
- Employees + 3rd Parties



- Website + ToS + PP
- Development Servers
- Employees + 3rd Parties
- Breach/Notification



- Website + ToS + PP
- Development Servers
- Employees + 3rd Parties
- Breach/Notification
- Ransomware



- Website + ToS + PP
- Development Servers
- Employees + 3rd Parties
- Breach/Notification
- Ransomware
- Cyber-Insurance





Accumulate IP & Traction



Accumulate IP & Traction

Many types of acquisitions



- Accumulate IP & Traction
- Many types of acquisitions
- Due Diligence



- Accumulate IP & Traction
- Many types of acquisitions
- Due Diligence
- Watch for misappropriation of trade secrets / src code



- Accumulate IP & Traction
- Many types of acquisitions
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- Beware Sarbanes-Oxley



- Accumulate IP & Traction
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SEC Filings Possible

Questions?

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Intellectual Property

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Ownership of and protectio for artificial intelligence. Regulation of artificial intelligence in the workplace and comerce. Litigation involving systems that incorporate machine learning and artificial agents. Development of legal models that incorporate artificial intelligence and natural langauge processing into software for integration into corporate IT systems.



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Blockchains / Smart Contracts

Blockchains for business and commerce, smart contracts, distributed autonomous organizations ("DAO's") (aka digital corporations), and business governance. Smart legal contracts, automated business processes that incorporate blockchains.



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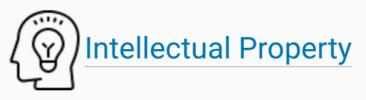
Blockchains for business and commerce, smart contracts, distributed autonomous organizations (digital corporations), business governance. Smart legal contracts, automated business processes, as well as regulatory and antitrust issues related thereto.



Matters involving computer/network security such as cybersecurity measures, privacy policies, privacy regulations, security breach and notification requirements, incident response, privacy issues, privacy policies, information technology system audits, corporate espionage, identity theft, and computer crimes.



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