

Innovation & IP Protection Strategy

Patent Applications & Types

Patent Publications & Numbers

Tools, Resources & Charts

Insights, Impacts & Analysis

Flash Card-style Primer

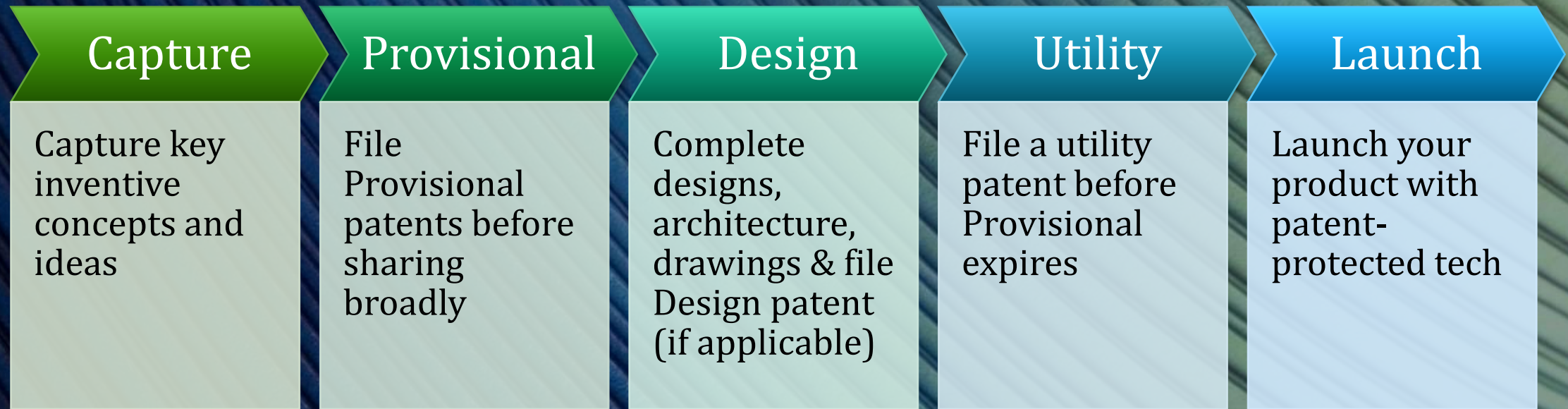
for

Startups, Entrepreneurs, Dreamers, and Curious Minds

Praveen Palanisamy

PraveenP.com

Innovation & IP protection strategy primer for startups



- Startups need to develop the right strategy and execute on the innovative inventions to build the business. Patents alone won't protect/grow the business.
- Avoid fears of ideas getting stolen by competitors with more resources. Focus on execution and IP protection.

Types of Patents



Utility Patent: Covers how an invention functions or how an invention is made



Design Patent: Covers the ornamental, non-functional features of an invention



Plant Patent: Covers newly discovered, asexually reproduced plants



Utility Patent



Protects new and useful inventions or improvements



Machines, manufactures, compositions of matter, or processes



Lasts for 20 years from the patent application's filing dateicon]

Design Patent



Protects the appearance of an object



Not its functional or structural features



Lasts for 14 years if filed before May 13, 2015, or 15 years if filed on or after May 13, 2015

Plant Patent



Protects a new and distinct plant that is asexually reproduced



Cuttings, grafting, or budding



Lasts for 20 years from the date of filing the application

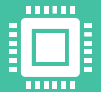
Types of Patent Applications



Non-provisional (standard) patent is a complete application that may or may not result in the grant of a patent and must consist of a written document, a drawing, and a filing fee.



Provisional patent is a temporary application that is filed when the invention is not finalized and gives priority rights and time to advance the invention.



Continuation patent is a patent application that adds claims to an already-filed application, known as the parent application, and uses the same specification and priority date.



Divisional patent is an application filed for an invention that is distinct from the original invention disclosed in the parent application.

Non-Provisional Patent Application



Standard application filed with the USPTO to obtain a patent for an invention.



Includes a written description of the invention, drawings (if necessary), and claims.

Provisional Patent Application



Temporary application filed with the USPTO,



Allows the applicant to secure an early filing date for their invention.

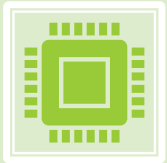


Generally, less expensive and less formal than a non-provisional application.

Continuation Patent Application



Adds claims to an already-filed application, known as the parent application.

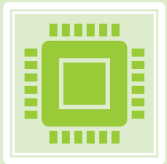


Allows an applicant to pursue additional claims based on the same invention disclosed in an earlier non-provisional application.

Divisional Patent Application



Filed when an applicant's original non-provisional application contains more than one distinct invention.



Allows the applicant to pursue separate patents for each invention.

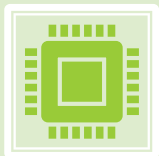
Patent Application, Publication, Grant Numbers



The **Patent Application Number** is the number that is assigned to the patent application when it is filed.



The **Patent Publication Number** is the number that is assigned to the patent application when it is published.



The **Patent (Grant) Number** is the number that is assigned to the patent after it is granted.

US10845815B2

United States

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Inventor: [Praveen Palanisamy](#), [Upali P. Mudalige](#)

Current Assignee : GM Global Technology Operations LLC

Worldwide applications [Patent Family](#)

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Application US16/048,144 events ⓘ

2018-07-27 • Application filed by GM Global Technology Operations LLC

2018-07-27 • Priority to US16/048,144 [Application #](#)

2020-01-30 • Publication of US20200033868A1

2020-11-24 • Application granted

2020-11-24 • Publication of [US10845815B2](#)

Status • Active

2039-03-02 • Adjusted expiration

Show all events ▾

Info: [Patent citations \(13\)](#), [Non-patent citations \(4\)](#), [Cited by \(52\)](#), [Legal events](#), [Similar documents](#), [Priority and Related Applications](#)

The background is a dark blue gradient with a pattern of glowing binary code (0s and 1s) in a lighter blue color. Overlaid on this are two financial charts: a line chart with a red line and a bar chart with red bars. The text "Tools, Resources & Charts" is centered in a large, white, serif font.

Tools, Resources & Charts

Google Scholar




Widely used for scholarly profiles, citation counts and publication indexing



Profile pages automatically include *some* patent documents and (an *incomplete*) patent citation count.



Downside: the patent information in Google Scholar Profile is incomplete.



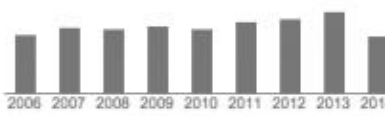
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Title	1-20	Cited by	Year
Can quantum-mechanical description of physical reality be considered complete?	A Einstein, B Podolsky, N Rosen Physical review 47 (10), 777	12721	1935
Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt	A Einstein Ann. Phys. 17, 132-148	7091 ★	1905
On the movement of small particles suspended in stationary liquids required by the molecular-kinetic theory of heat	A Einstein Annalen der Physik 17, 549-560	5633 ★	1905
Zur Elektrodynamik bewegter Körper	A Einstein	3761 ★	

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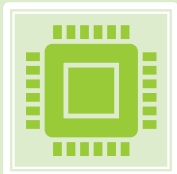
Citation indices	All	Since 2009
Citations	86302	28107
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Results

Items	Citations	Cites/paper	h-index	g-index	AWCR	AWCRpA
158	2522	15.96	24	47	346.68	18.62
Years: 39	Papers/author: 150.81	h-index: 21	AWCRpA: 250.91			
Cites/year: 64.67	Authors/paper: 1.88	h-index: 16.00	e-index: 36.40			
		h-index: 21	hm-index: 20.83			

Articles and books found

Rank	Per year	Rank	Authors	Title	Year	Publication	Publisher
175	19.44	2	AW Harzing	Acquisitions versus greenfield invest...	2002	Strategic Mana...	interscience.wiley....
170	15.45	1	AW Harzing	An Empirical Analysis and Extension of...	2000	Journal of Inter...	questia.com
167	13.92	3	AWK Harzing	Managing the multinationals: An intern...	1999		Edward Elgar Chel...
155	9.09	4	AWK Harzing	The persistent myth of high expatriate...	1995	The Internation...	informaworld.com
123	8.79	5	AW Harzing	Response rates in international mail su...	1997	International B...	Elsevier
113	16.14	6	AW Harzing, ...	International human resource managem...	2004		books.google.com
109	10.90	7	AW Harzing	Of bears, bumble-bees, and spiders: Th...	2001	Journal of Worl...	Elsevier
106	13.25	8	AW Harzing, ...	The relative impact of country of origin...	2003	Organization St...	oss.sagepub.com
76	7.60	9	AW Harzing	Who's in charge? An empirical study of...	2001	Human Resourc...	interscience.wiley....
67	6.09	10	AW Harzing	Cross-National Industrial Mail Surveys...	2000	Industrial Mark...	Elsevier
65	7.22	11	AW Harzing	Are our referencing errors underminin...	2002	Journal of Orga...	interscience.wiley....
59	5.90	13	AW Harzing	An analysis of the functions of interna...	2001	Employee Relati...	emeraldinsight.com
59	19.67	14	AWK Harzing...	Google Scholar as a new source for cit...	2008	Ethics in Scienc...	int-res.com
59	3.93	12	AW Harzing, ...	Planned change in organizations: The ...	1996	Research in the...	
58	7.25	16	AJ Peely, AW...	Language management in multinationals...	2003	Cross Cultural ...	emeraldinsight.com
54	27.00	18	ND Adler, AW...	When knowledge wins: Transcending th...	2009	The Academy o...	Academy of Mana...
53	7.57	15	JB Hocking, ...	A knowledge transfer perspective of a...	2004	International Jo...	informaworld.com
50	6.25	17	AW Harzing	The role of culture in entry mode stud...	2003	Advances in Int...	emeraldinsight.com
40	10.00	20	J Mingers, A...	Ranking journals in business and mana...	2007	European Journ...	ingentaconnect.com
38	3.17	19	AW Harzing	Managing the multinationals	1999		Elgar
29	5.80	22	AW Harzing, ...	Knowledge flows in MNCs: an empirica...	2006	International B...	Elsevier
26	1.63	21	M Borg, AW ...	Composing an international staff	1995	International H...	
25	5.00	24	AW Harzing	Response styles in cross-national surv...	2006	International Jo...	com.sagepub.com
25	3.57	23	AW Harzing, ...	Expatriate failure: time to abandon th...	2004	Career Develop...	emeraldinsight.com

Calculated statistics

Query panel (varies per analysis)

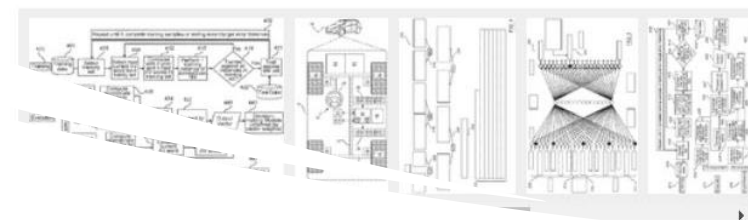
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Help

Systems, apparatus, and methods for embedded encodings of contextual information using a neural network with vector space modeling

Abstract

Systems, Apparatuses and Methods for implementing a neural network system for controlling an autonomous vehicle (AV) are provided, which includes: a neural network having a plurality of nodes with context to vector (context2vec) contextual embeddings to enable operations of the AV; a plurality of encoded context2vec AV words in a sequence of timing to embed data of context and behavior; a set of inputs which comprise: at least one of a current, a prior, and a subsequent encoded context2vec AV word; a neural network solution applied by the at least one computer to determine a target context2vec AV word of each set of the inputs based on the current context2vec AV word; an output vector computed by the neural network that represents the embedded distributional one-hot scheme of the input encoded context2vec AV word; and a set of behavior control operations for controlling a behavior of the AV.

Images (7)



US10678252B2
United States

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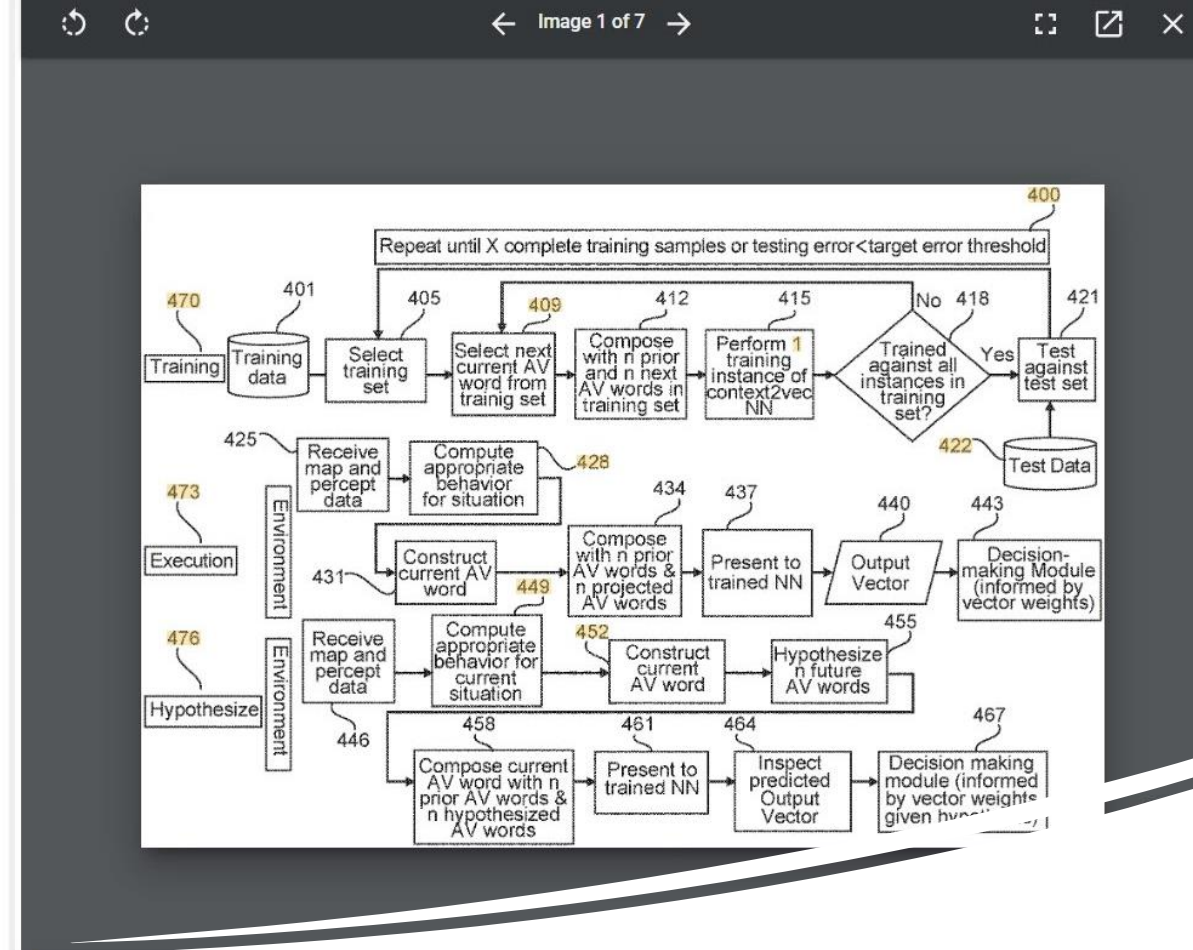
Inventor: [Marcus J. Huber, Praveen Palanisamy](#)
Current Assignee : GM Global Technology Operations LLC

Worldwide applications
2018 · [US](#) 2019 · [DE](#) [CN](#)

Application US16/059,403 events ⓘ

- 2018-08-09 • Application filed by GM Global Technology Operations LLC
- 2018-08-09 • Priority to US16/059,403
- 2020-02-13 • Publication of US20200050207A1
- 2020-06-09 • Application granted

US10678252B2



Google Patents

- [Google patents](#) is a great resource especially if you know the patent/publication numbers to lookup.
- The URL format is straightforward for example: <https://patents.google.com/patent/US10678252B2> where the last part is the patent or publication number.

Inventors: Palanisamy Praveen, Mudalige Upali P

Cited Works: 0 Cited by: 65 Cites: 6 Collections: 1 080-810-488-963-616

Additional Info: [Active](#) [Full text](#) [Owners](#) [Abstract](#) [Claim](#) [Description](#) [Published](#) [Inventorship](#)

☐ Spatial and Temporal Attention-Based Deep Reinforcement Learning of Hierarchical Lane-Change Policies for Controlling an Autonomous Vehicle

☒ [US 2020/0139973 A1](#) [Patent Application](#) Family: 4s / 4ex Family Jurisdictions: US, CN, DE Legal Status: ● Active

Application No: 201816177834 Filed: Nov 1, 2018 Published: May 7, 2020 Earliest Priority: Nov 1, 2018 Granted: Mar 9, 2021

Owners: Gm Global Technology Operations Llc, Carnegie Mellon University

Applicants: Gm Global Tech Operations Llc, Univ Carnegie Mellon

Inventors: Palanisamy Praveen, Mudalige Upali P, Chen Yilun, Dolan John M, Muelling Katharina

Cited Works: 0 Cited by: 45 Cites: 25 Collections: 1 070-906-093-736-850

Additional Info: [Active](#) [Full text](#) [Owners](#) [Abstract](#) [Claim](#) [Description](#) [Published](#) [Inventorship](#)

☐ Automated Driving Systems and Control Logic for Cloud-Based Scenario Planning of Autonomous Vehicles

☒ [US 2019/0286151 A1](#) [Patent Application](#) Family: 3s / 3ex Family Jurisdictions: DE, CN, US Legal Status: ● Discontinued

Application No: 201815920810 Filed: Mar 14, 2018 Published: Sep 19, 2019 Earliest Priority: Mar 14, 2018

Owners: Gm Global Technology Operations Llc

Applicants: Gm Global Tech Operations Llc

Inventors: Palanisamy Praveen, Jafari Tafti Sayyed Rouhollah, Samii Soheil, Huber Marcus J

Cited Works: 0 Cited by: 41 Cites: 0 Collections: 1 102-669-882-826-624

Additional Info: [Discontinued](#) [Full text](#) [Owners](#) [Abstract](#) [Claim](#) [Description](#) [Published](#) [Inventorship](#)

☐ Method and System for End-to-End Learning of Control Commands for Autonomous Vehicle

☒ [US 2020/0142421 A1](#) [Patent Application](#) Family: 5s / 5ex Family Jurisdictions: US, DE, CN Legal Status: ● Active

Application No: 201816180849 Filed: Nov 5, 2018 Published: May 7, 2020 Earliest Priority: Nov 5, 2018 Granted: May 25, 2021

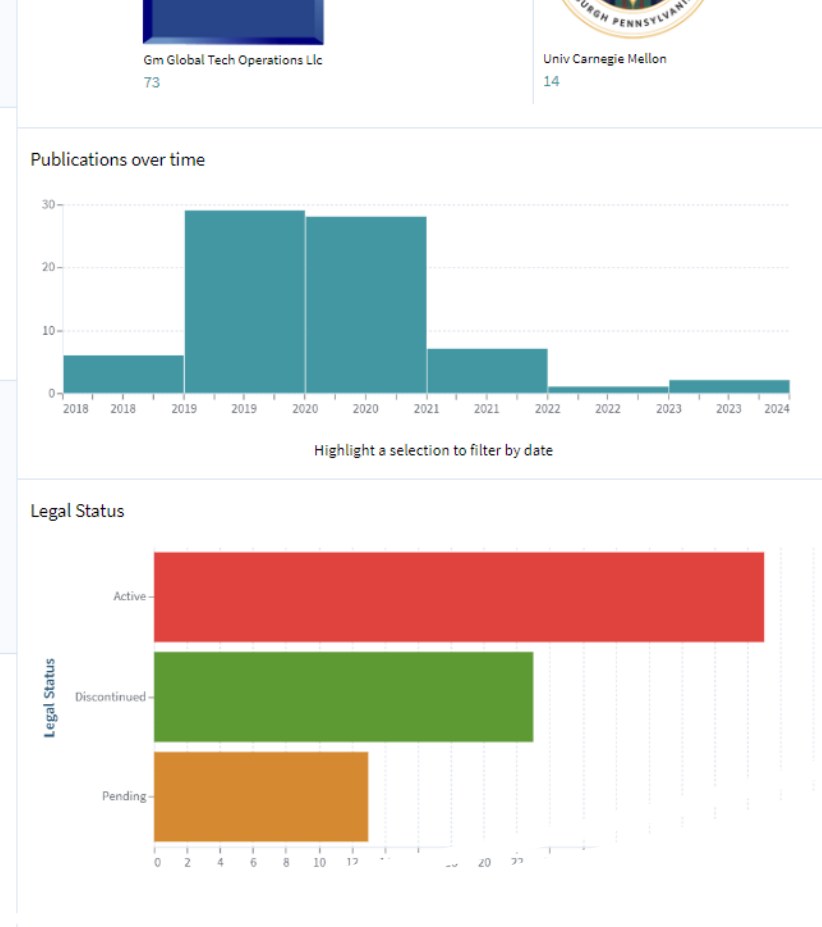
Owners: Gm Global Technology Operations Llc, Carnegie Mellon University

Applicants: Gm Global Tech Operations Llc, Univ Carnegie Mellon

Inventors: Palanisamy Praveen, Mudalige Upali P, Chen Yilun, Dolan John M, Muelling Katharina

Cited Works: 0 Cited by: 39 Cites: 0 Collections: 2 100-705-498-362-506

Additional Info: [Abstract](#) [Claim](#) [Description](#) [Published](#) [Inventorship](#)



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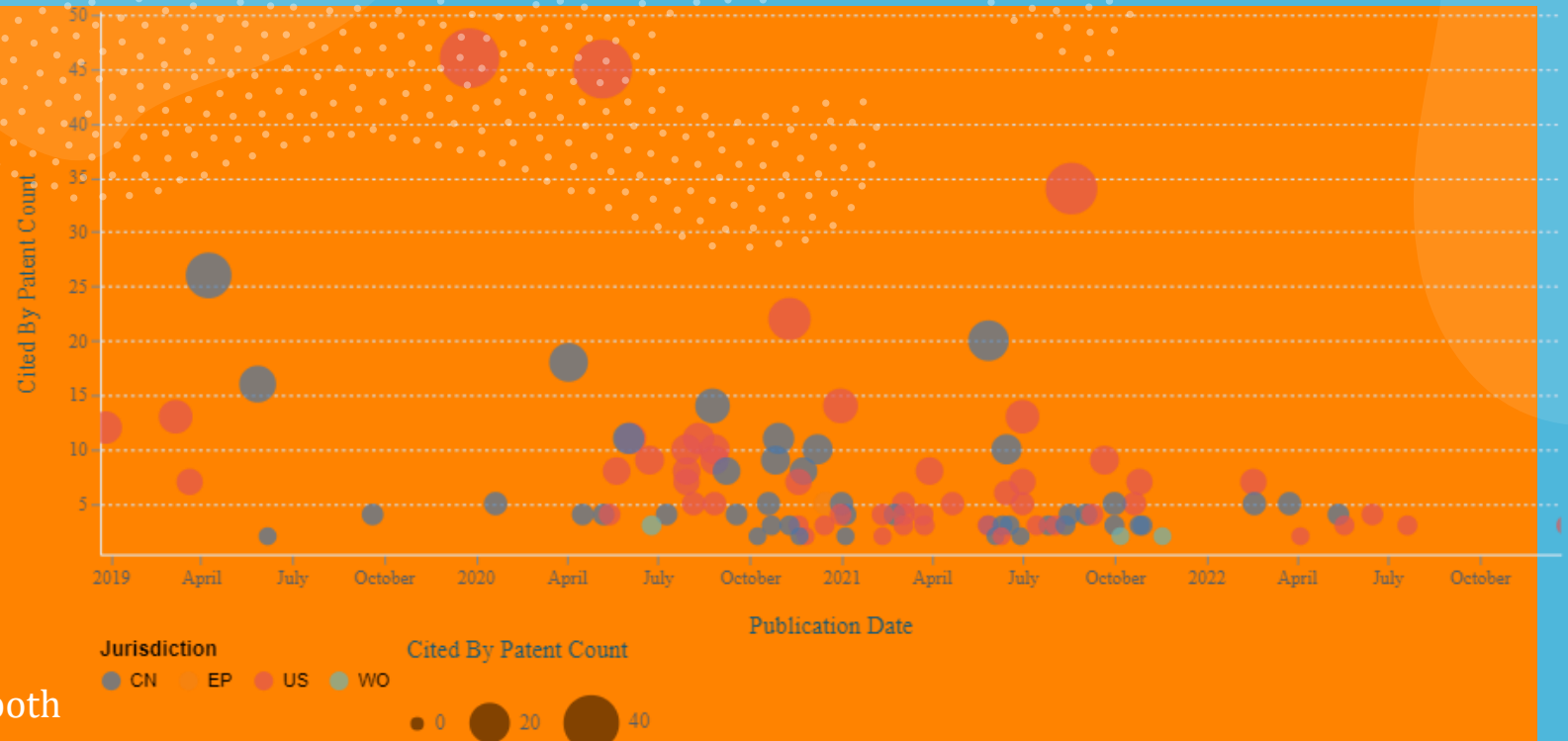
- [Lens.org](#) has extensive list of scholarly publications, patents, metrics, analysis and insights.
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Insights, Impacts & Analysis

Finding Insights and Potential Licensees

- Patent infringements & lawsuits are both negative and depletes resources.
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You may also find surprising insights like I did!

Google Deepmind's "[Multi-agent reinforcement learning with matchmaking policies](#)" patent which was granted on 2023-04-11 cites 3 patents in total and one of them is my patent application [US20200033868A1](#) which was granted in 2020-11-24.

The fact that the invention by David Silver (led AlphaGo, AlphaZero, etc.), Oriol Vinyals (led AlphaStar, AlphaCode) and Max Jaderberg cites my work, motivates me as my work is indeed impactful.

Finding Citations by Organizations, Coopetitors and Competitors

- The number of patents citing a list of patents by an inventor/startup, grouped by the citing organizations can be obtained via lens.org using a query.
- For example, here's a list of the top 50 organizations that cite my patents →

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 Gm Global Tech Operations Llc 10	 Argo Ai Llc 10	 Volkswagen Ag 8	 Toyota Motor Co Ltd 8	 Kia Motors Corp 8	 Univ Carnegie Mellon 3	 Univ Beijing Technology 3	 Samsung Electronics Co Ltd 3	 Plusai Inc 3	 Nissan North America Inc 3
 Ibm 8	 Hyundai Motor Co Ltd 8	 Here Global Bv 8	 Huawei Tech Co Ltd 7	 Stradvision Inc 6	 Motional Ad Llc 3	 Lg Electronics Inc 3	 Google Llc 3	 Eagle Tech Llc 3	 Denso Int America Inc 3
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