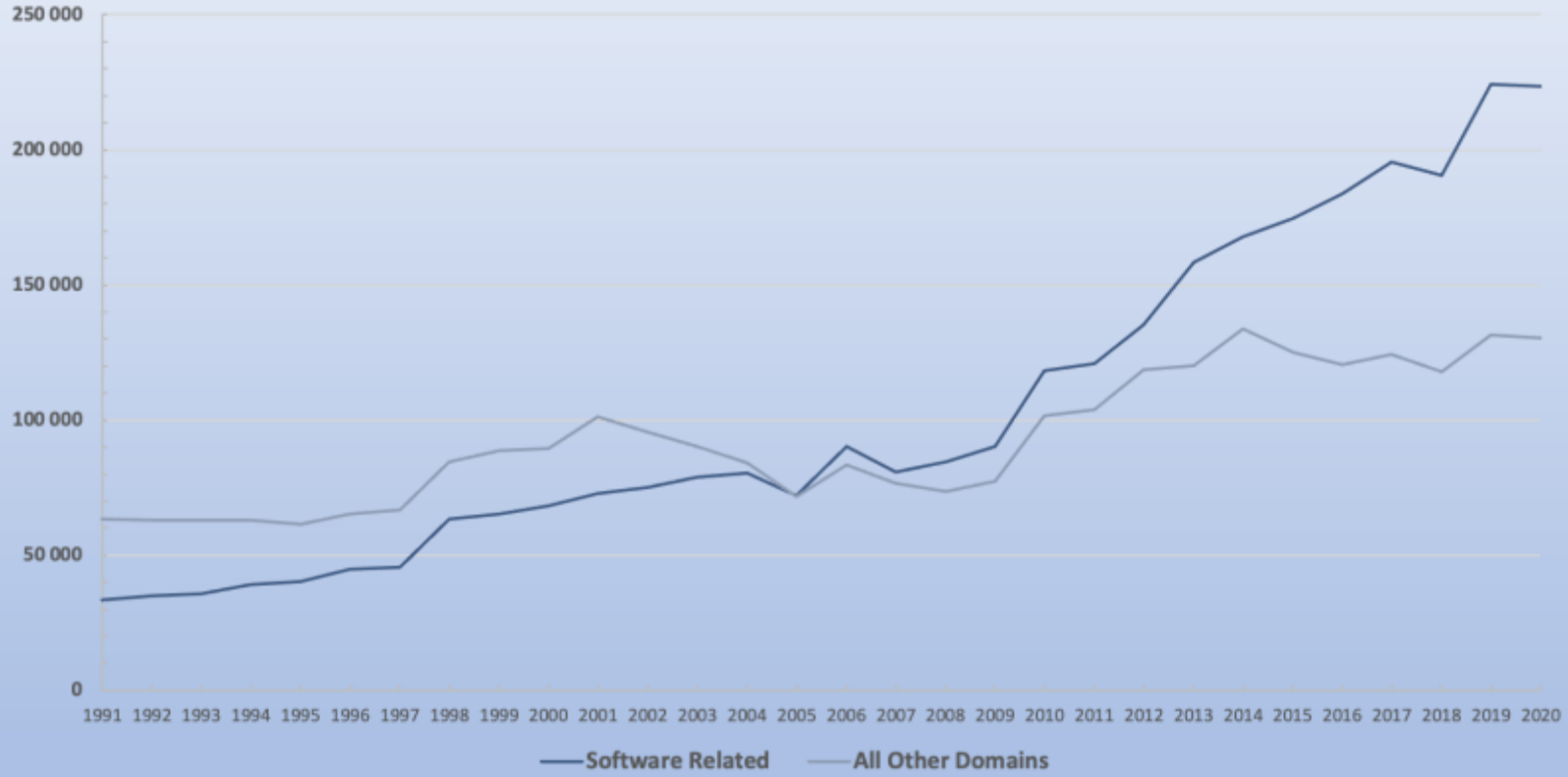


# Management of Intellectual Property

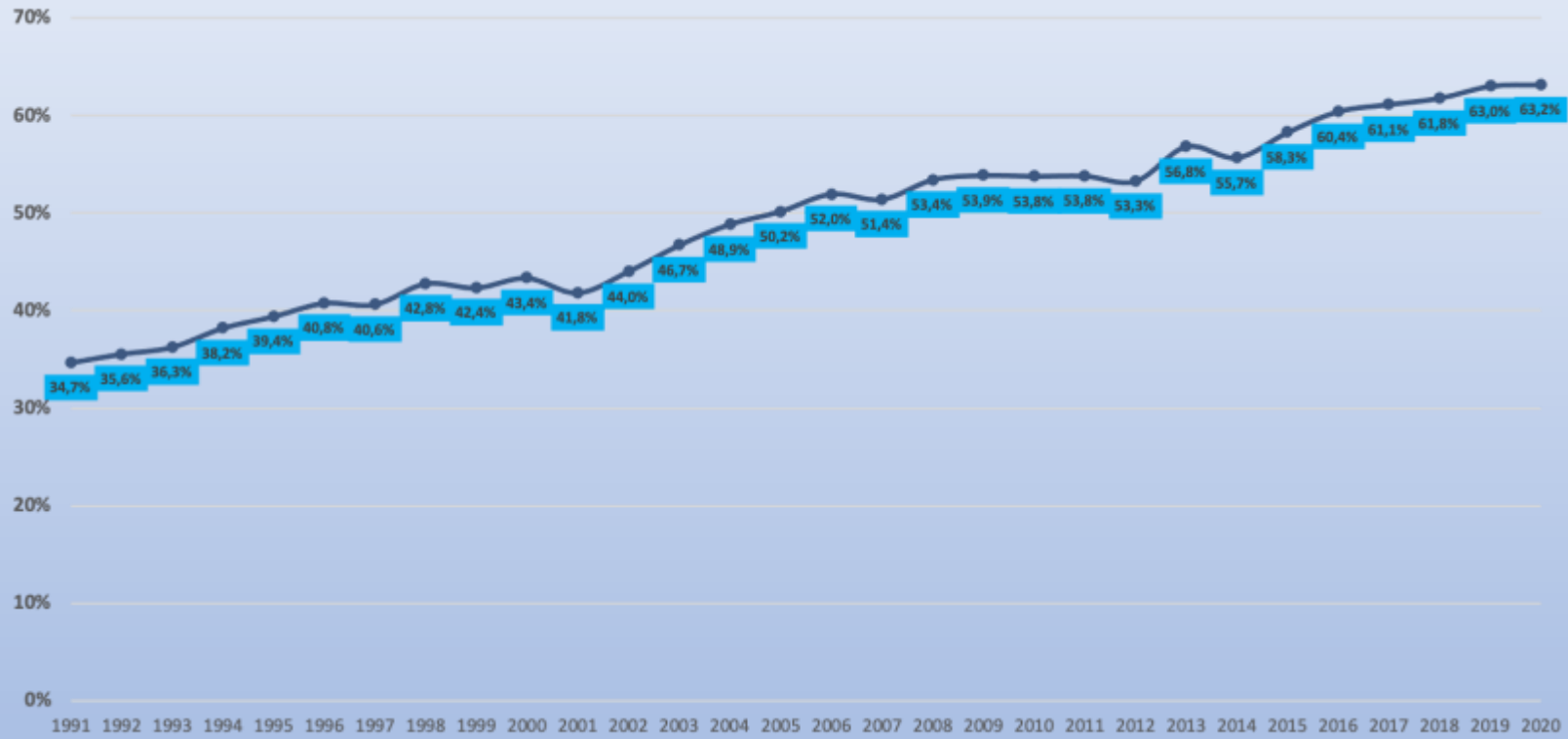
Carlos M. Correa  
South Centre

- **INTELLECTUAL PROPERTY TRENDS**

## Number of Software-Related Utility Patents Granted by the USPTO



## % Share of Software-Related U.S. Granted Patents

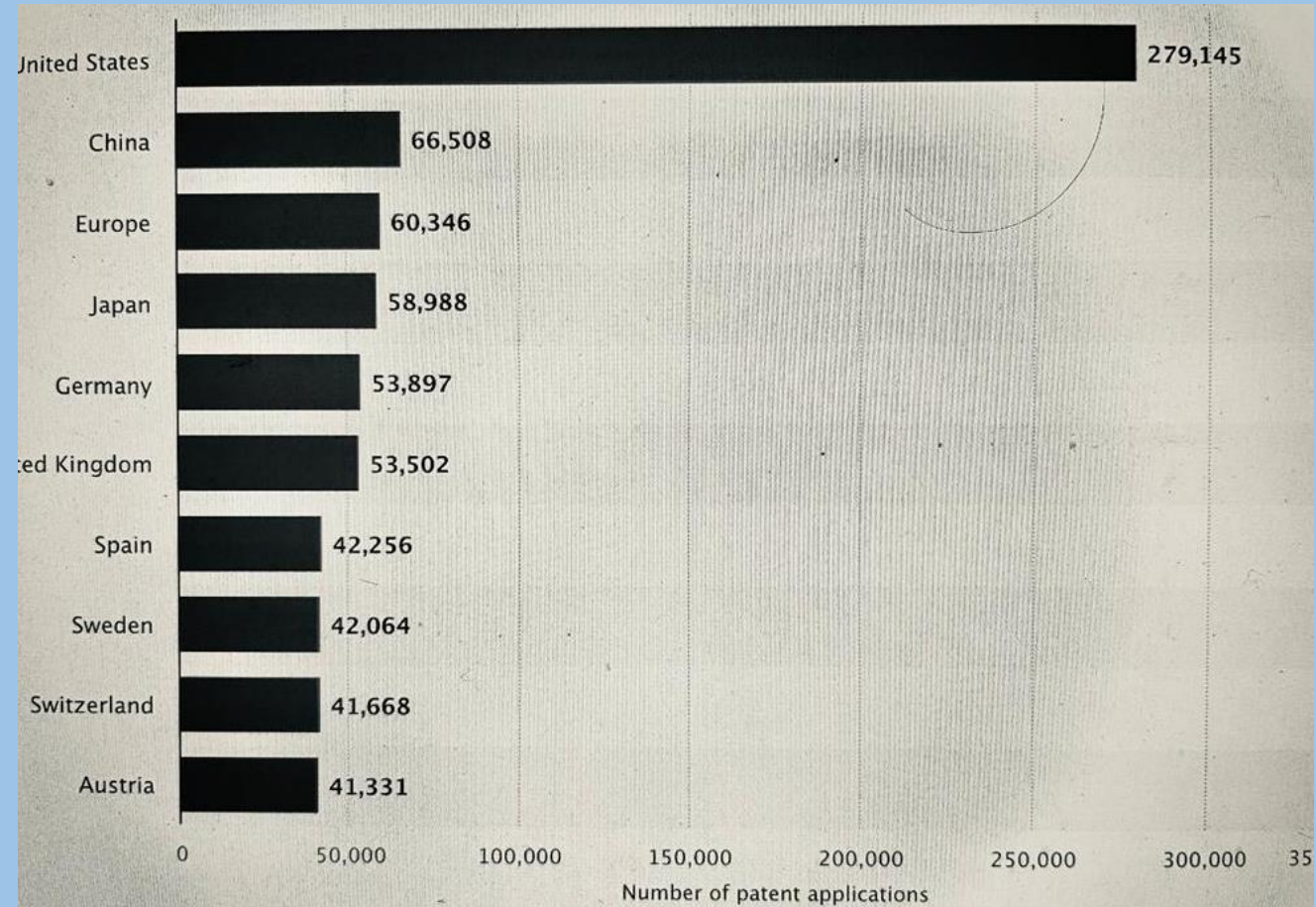


© 2021 by Raymond Millien. Data gathered courtesy of Clairvolex.com (using PatSeer database).

**Top 15 Software-Related Granted  
U.S. Patent Assignees for 2020**

<b>Current Assignee</b>	<b>Count</b>
IBM Corp.	7891
Samsung Group	7559
LG Corp.	3332
Toyota Group	3189
Intel Corp.	2765
Canon Inc	2590
Taiwan Semiconductor Mfg. Co. Ltd	2579
Microsoft Corp	2555
Dell Technology Inc.	2497
Apple Inc.	2324
Sony Corp.	2291
BOE Technology Group Co Ltd	2000
Huawei Investment & Holding Co. Ltd.	1974
Alphabet Inc.	1921
Amazon.com Inc.	1821

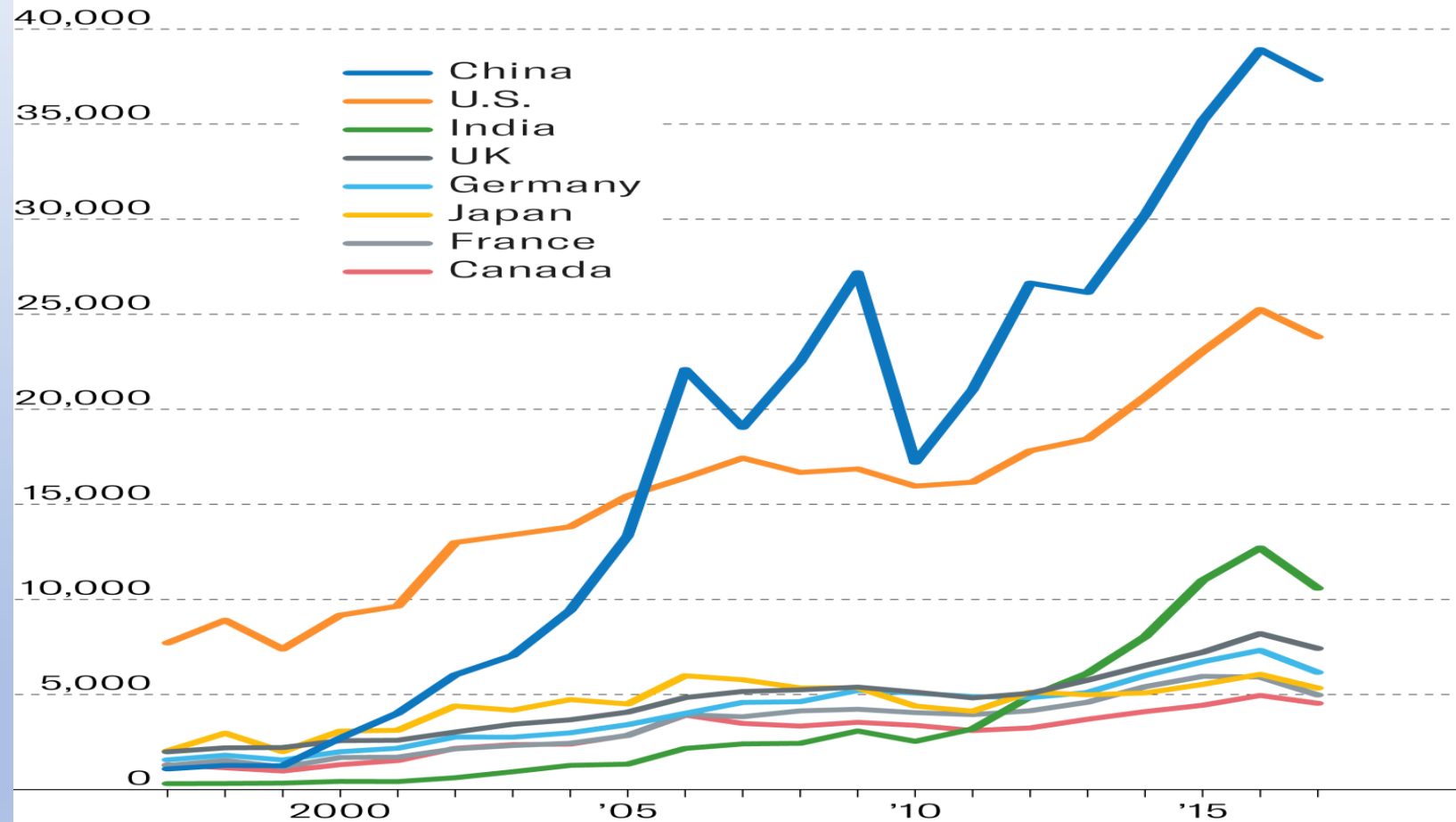
# ARTIFICIAL INTELLIGENCE: PATENT APPLICATIONS



# Where New AI Research Comes From

How many papers are published in each country annually?

Global output of AI scientific papers



Source: *China AI Development Report 2018*, China Institute for Science and Technology Policy at Tsinghua University

- **INTELLECTUAL PROPERTY PROTECTION**



# AI-generated or aided inventions?

- The DABUS patent (University of Surrey)
- ‘Inventor’: natural person
- Automation v. autonomy (*self-determination or self-rule*)

# Artificial intelligence machines as 'authors'

- Robot reporters (automated journalism), painting, music
- Copyright or public domain?

# Categories of data

- Personal/non-personal/commercial
- Anonymized personal data
- Representative (measurement)/implied (inferences)/derived (from other data)
- Machine-generated
- .....

# Idea/expression dichotomy

- All facts — scientific, historical, biographical, and news of the day, may not be copyrighted and are part of the public domain available to every person.” *Feist Publications Inc v Rural Telephone Service Co*, 499 US 340, 111 S Ct 1282 at 348 (1991)
- Copyright protection only extends to the expression of ideas as opposed to the underlying ideas or facts.” Facts are in the public domain as “trite law” *CCH Canadian Ltd v Law Society of Upper Canada*, [2004] 1 SCR 339, 2004 SCC 13 (CanLII), para 25

# Mergers doctrine

- Where the expression of a fact or an idea merges with that fact or idea, (for example, where there is only one or a very limited number of ways to express it), there can be no copyright protection since the practical result of any such protection would be to give a monopoly over the fact or idea.
- T Scassa, Data Ownership, CIGI, 2018

# Copyright in data

- TRIPS Agreement article 10(2) [Compilations of data]
- *Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright **subsisting in the data** or material itself*

# Authored data?

- The defendant's copying of settlement prices generated by the plaintiff's algorithm amounted to copyright infringement. (T. Scassa, CIGI)
- US Court of Appeal for the Second Circuit *NY Mercantile Exch, Inc v Intercontinental Exchange, Inc*, 497 F (3d) 109 (2d Cir 2006)

# Authored data?

- If the data purports to represent actual objective prices of actual things in the world... it is an unprotectable fact; if the data purports to represent an estimated price of a kind of idealized...then the hypothetical price may be eligible for some form of copyright protection in the right circumstances.
- *BanxCorp v Costco Wholesale Corp*, 978 F Supp (2d) 280 (SDNY 2013)



# Raw v. processed data

- Processed data:
- “any product derived, generated or created from the data, including, but not limited to any and all processed and reprocessed data, interpretations, maps or analyses, regardless of the form or medium on which it is displayed or stored’.
- 2017 CanLII 80435 (SCC) *Geophysical Service Inc*

# Data governance

- Ownership
- Sovereignty
- Control (over collection or use?)
- Data rights (access, remuneration, portability, rectification, erasure, objection to sharing, etc.)
- Contract law

# New challenges: IoT

- IoT: interaction among hardware and software producers
- Rapid obsolescence
- Standard essential patents

# Who owns the data

- Provider (source)
- Collecting entity
- Data compiler (aggregation of data)
- Device manufacturer (e.g. sensors)
- Device user
- Data controller/processor