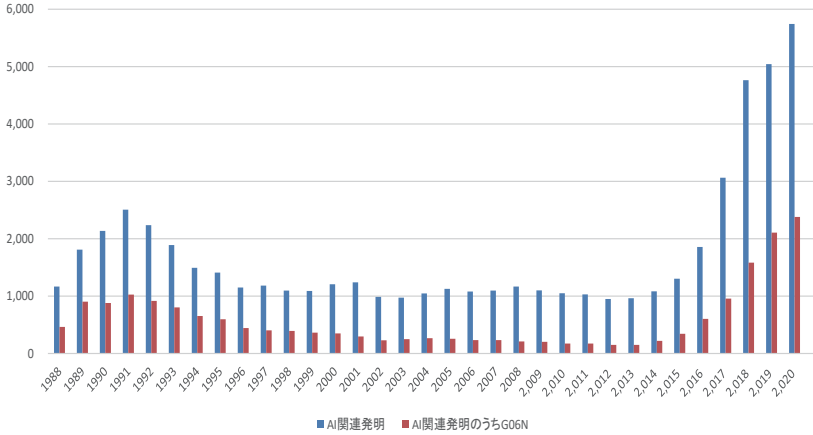


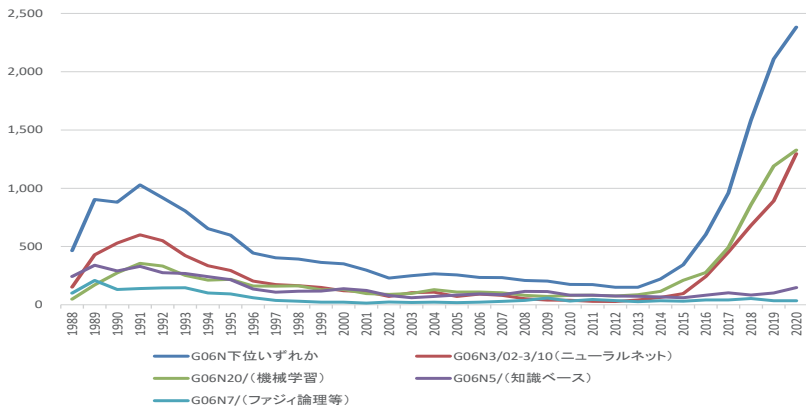
## データで見る知財事情

### AI 関連発明の国内出願件数の推移



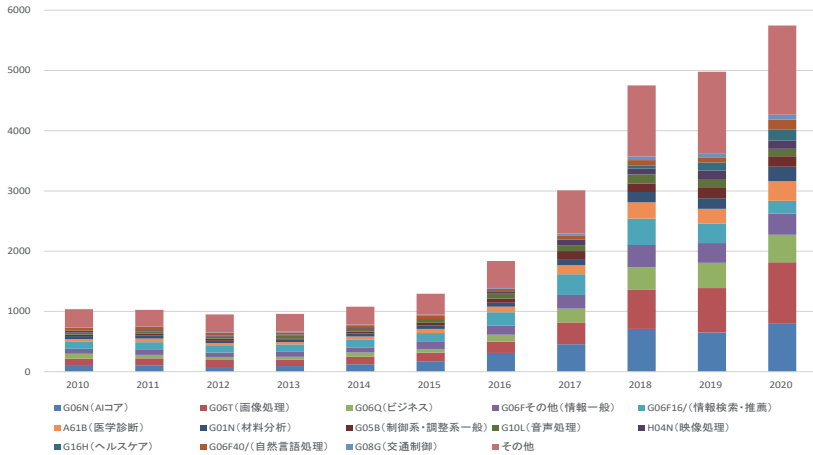
1991 頃といったんピークを迎えた後、2015 年以降急増している。

### G06N 下位分類の出願件数の推移



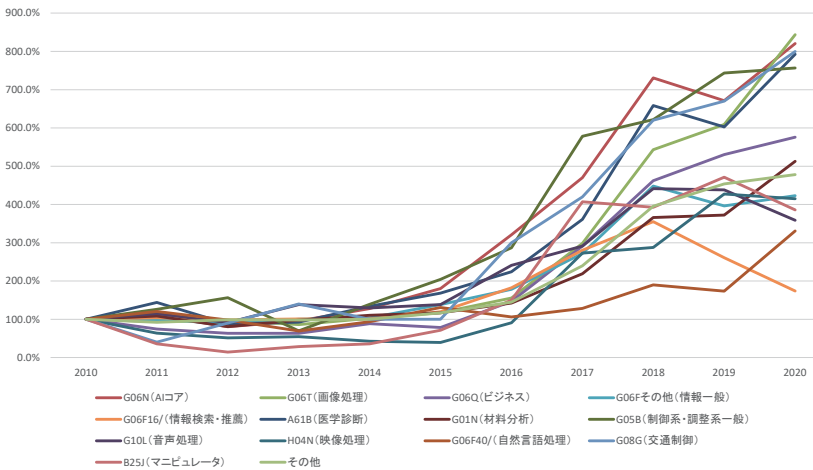
G06N 下位分類のうち機械学習とニューラルネットが急増している。

### AI 関連発明の主分類構成の推移



AI コア及び画像処理の比率が高い。

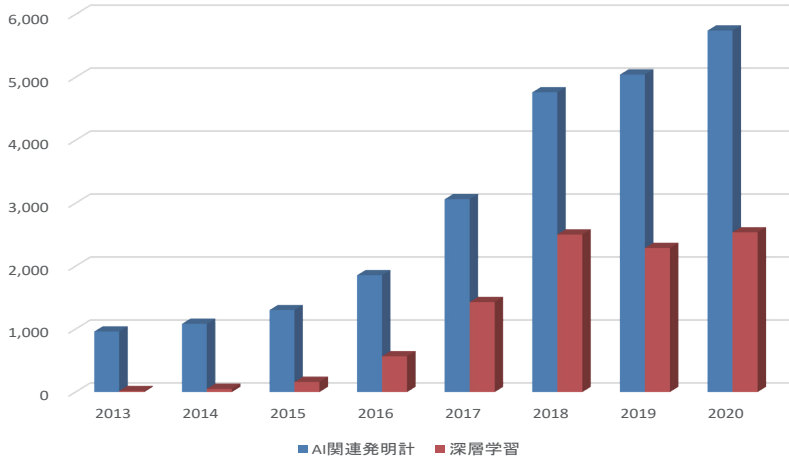
### 2010 年の出願件数を 100%とした場合の各主分類の比率の推移



AI コア及び画像処理当の伸び率が大きい。

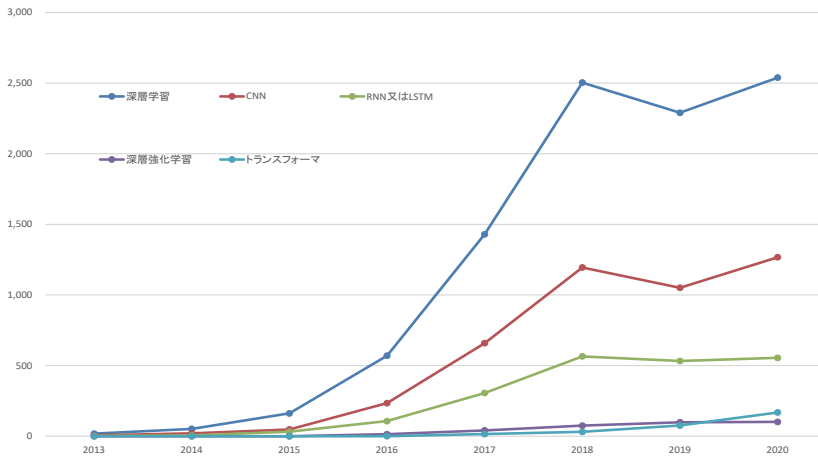
(出所：特許庁「AI 関連発明の出願状況調査 報告書 2022」)

深層学習に言及する AI 関連発明の出願件数の推移



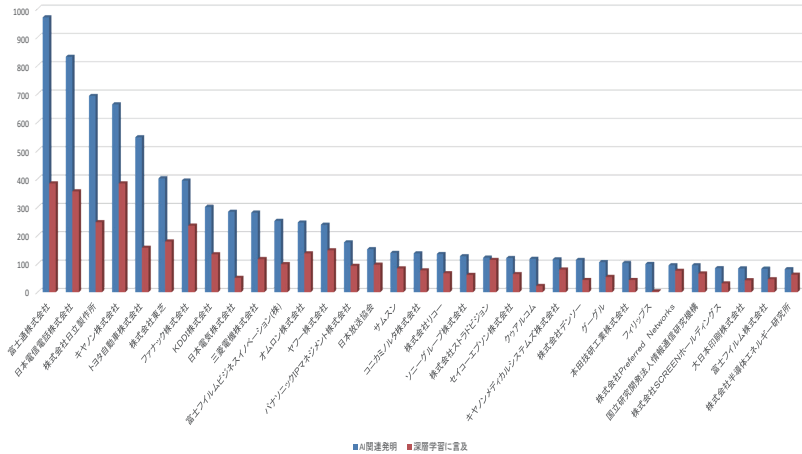
AI 関連発明のうち約半数が深層学習に言及している。

個別の深層学習技術に言及する AI 関連発明の出願件数の推移



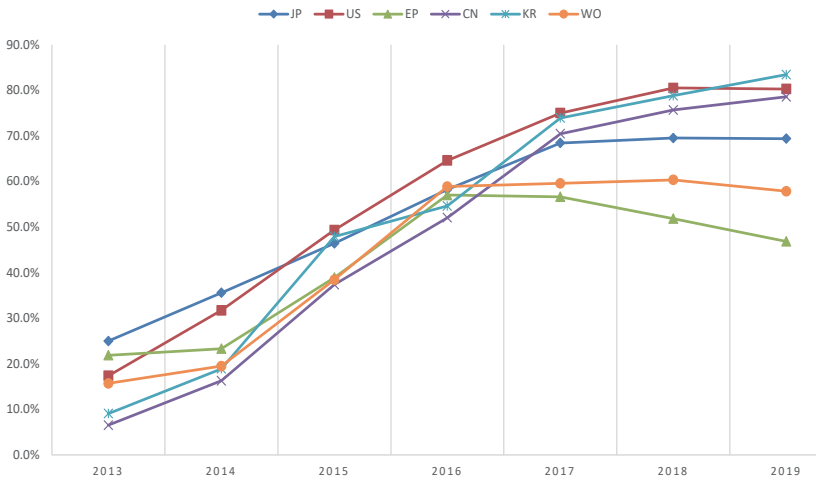
米・欧・中からの日本特許出願が漸増傾向

### AI 関連発明の出願人別出願件数



日本企業では富士通、外国企業ではサムスンの出願数が多い。

### G06N3/02-3/10 の出願のうち深層学習関連出願の割合の推移

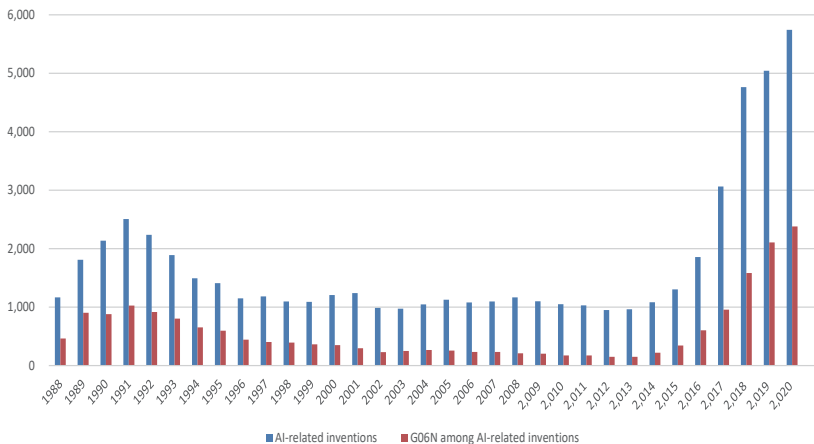


中国、韓国において深層学習関連出願の割合が増大中である。

(出所：特許庁「AI 関連発明の出願状況調査 報告書 2022」)

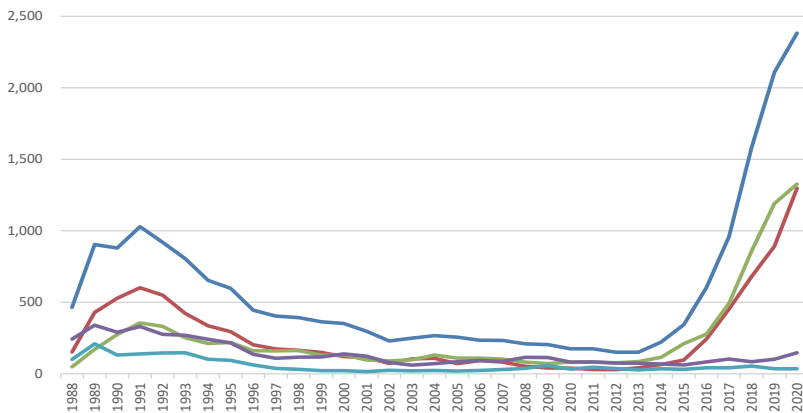
## Intellectual Property Statistics

### Number of domestic applications for AI-related inventions



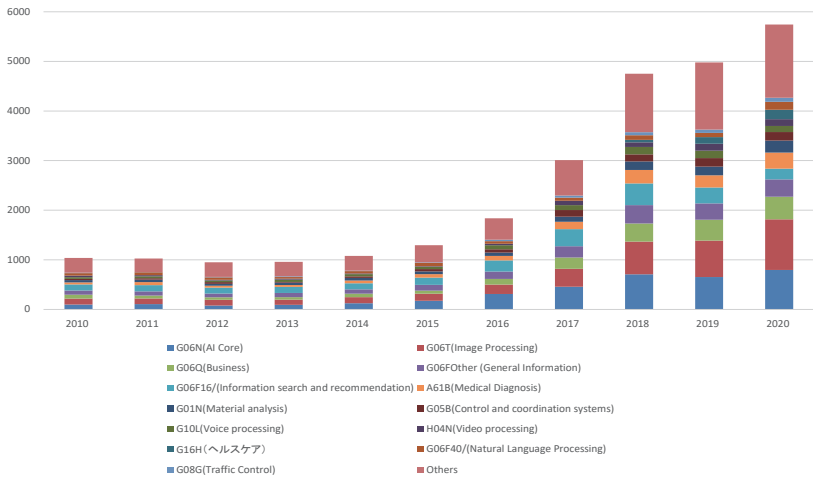
After peaking around 1991, the number has increased sharply since 2015.

### Number of applications in G06N lower



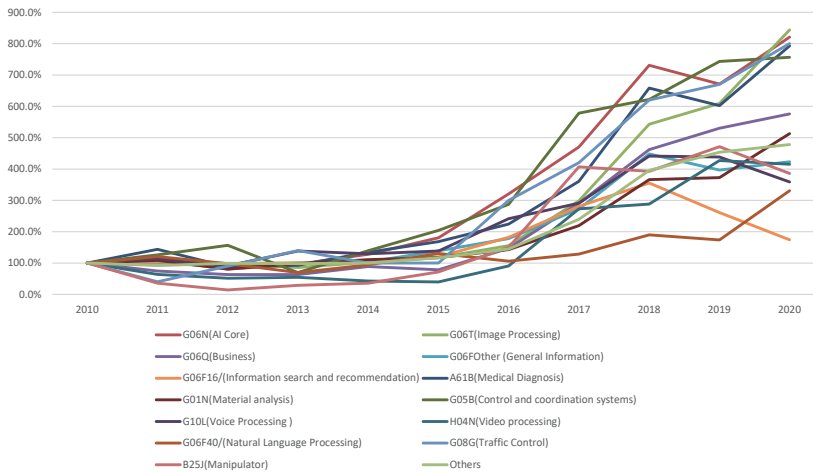
G06N Machine learning and neural nets are rapidly increasing among the lower-level classifications.

Trends in the main classification structure of AI-related inventions



AI cores and image processing account for a high proportion of the total.

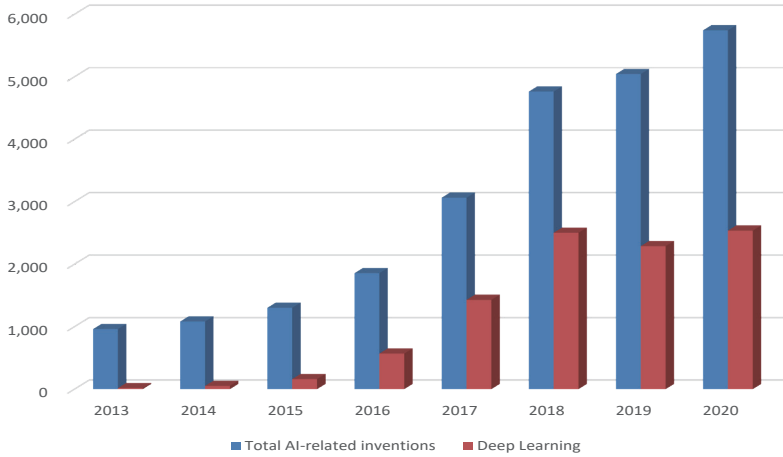
Percentage change of each main classification when the number of applications in 2010 is set as 100%.



The growth rate of AI cores and image processing cores is significant.

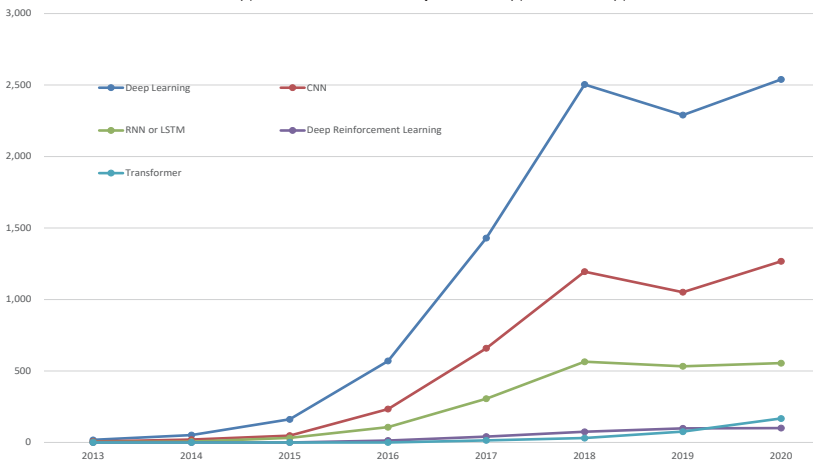
(Source : JPO "Survey Report on Application Status of AI-related Inventions 2022")

Trends in the number of applications for AI-related inventions referring to deep learning



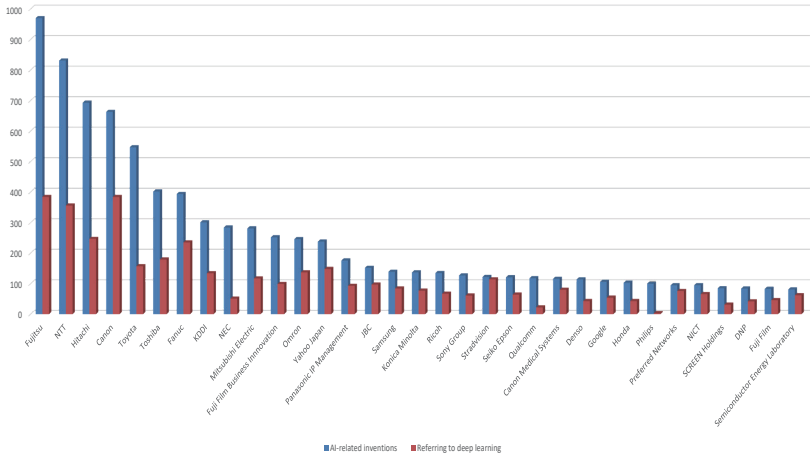
About half of all AI-related inventions mention deep learning.

Number of applications for AI-related inventions referring to individual deep learning technologies



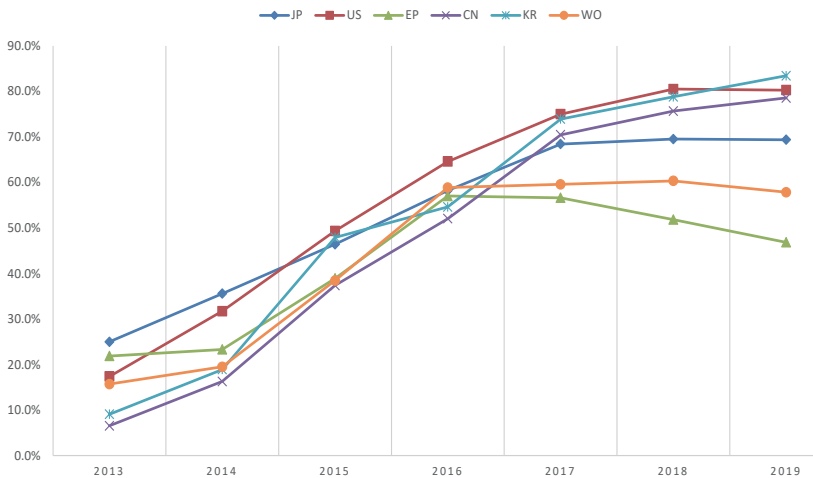
Japanese patent applications from the U.S., Europe, and China are gradually increasing.

Number of applications for AI-related inventions by applicant



Fujitsu has a large number of applications.

Percentage of G06N3/02-3/10 applications related to Deep Learning



The percentage of applications related to deep learning is increasing in China and Korea.

(Source : JPO "Survey Report on Application Status of AI-related Inventions 2022")