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OSS Maturity Evaluation Reporting Service in Fujitsu

2018/10/10

OSS Total Service in Fujitsu

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We strongly support all processes involved in OSS

Planning → Design → Introduction → Operation

Risk management services to introduce open source safely and securely

Planning	Design	Introduction	Operation
Risk Assessment • Extraction of risks • Setting of goals to be aimed at customers' current operation	**Policy/Rule Formulation** **Risk Management Tool Selection**	**Risk Management Tool Introduction** • support for creating operation policy and whitelist	**Q&A Service** • Response to various consultations on risk measures

Technical services to realize further utilization of OSS

Utilization Assessment • Formulation of OSS usage policy for each service level of the system	**Selection Assistance** • Selecting optimal OSS according to requirements **Migration Assessment** • Calculation of man-hours and difficulty	**Introduction** on behalf of customers **Migration** on behalf of customers	**Technical Support** • Technical QA support • solution support at the time of trouble occurrence

Highly Technical Support
Highly technical support, such as troubleshooting and performance tuning

Educational services to support customers' in-house production

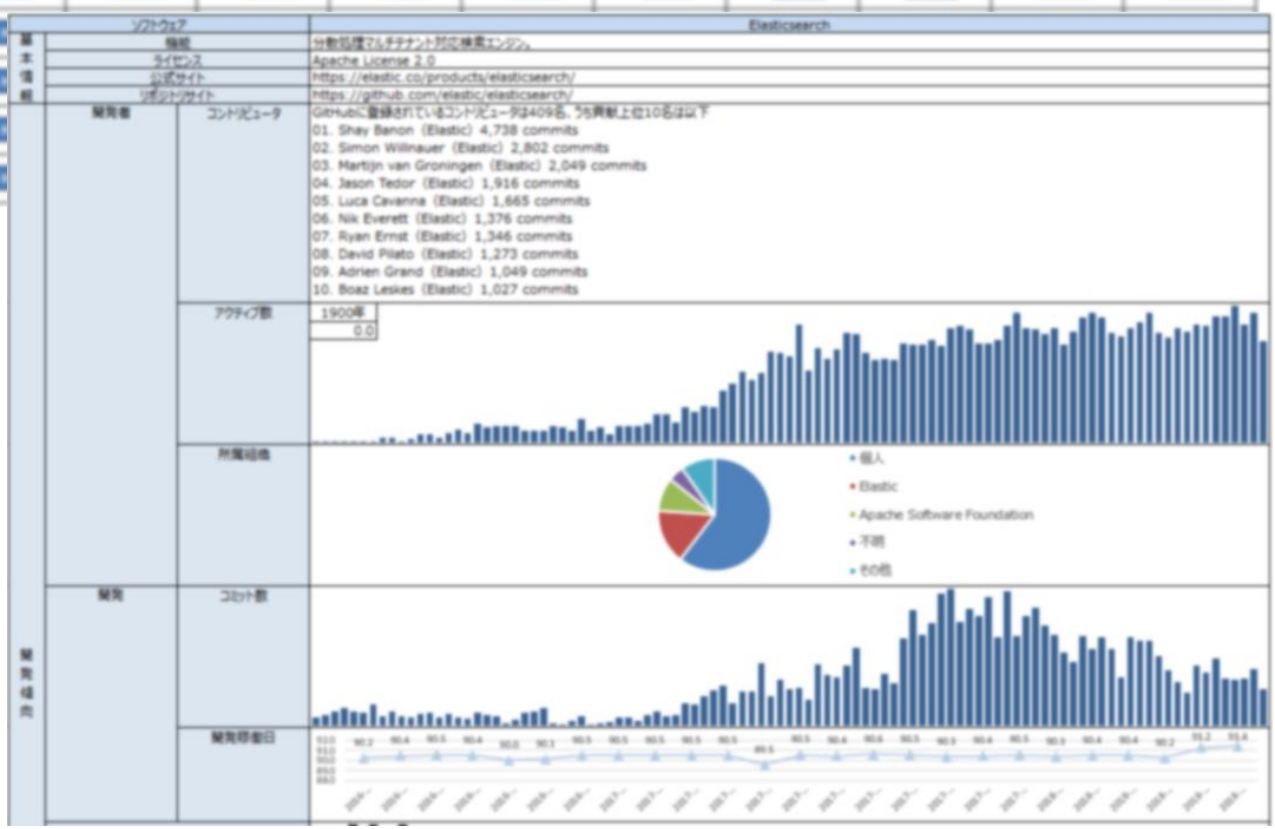
Training
Training courses about OSS, Skill Transfer

Overview

- Periodically evaluate and report maturity of OSS that you are using or are considering using.
- Maturity is evaluated in 3 levels for 11 axes.

Safe | Caution | Warning

Click software name to display more detailed report



Example of maturity evaluation axes (1/2)

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Maturity Evaluation Axes		Detail
Basic Information	License	• License applied to that OSS. • Especially, pay attention when licensing differs depending on version or component.
	Official Site	• Whether the official site exists.
	Repository Site	• Whether the repository site to manage source code exists. • When the source code is released at repository site (ex. GitHub), developers and development trend can be visualized.
Development Trend	Developers	• Whether the number of developers is stable. • If the number is suddenly increasing or decreasing due to acquisitions etc., follow-up observation is necessary.
	Influence of a specific company	• The influence strength of a specific company. • If a specific company holds many copyrights, there is a possibility of changing development policy only with the speculation of the company.
	Commits	• Whether the development itself is stable.
	Releases	• Whether the OSS make releases regularly.

Example of maturity evaluation axes (2/2)

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Maturity Evaluation Axes		Detail
Source code quality		• Quality of source code itself. • Evaluate complexity etc. as metrics for measuring readability and maintainability.
Software quality	Correspondence to bugs	• Whether the bugs are managed and visualized, and they are corresponded.
	Vulnerability	• Whether the fixes for serious vulnerability made quickly.
Use trend	Technical information	• The degree of fulfillment of the official documents, books, presentation materials, and so on.
	Use cases	• Whether there are cases of introduction in companies.

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Details of maturity evaluation axes

- Example : Tensorflow

①function

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- Describe the outline of the open source function to use.

Function	Library for Machine Learning

② license

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- License applied to that open source.
- Especially, pay attention when licensing differs depending on version and component.

ライセンス	Apache License 2.0 However, different licenses apply for the following components. ■Eigen（third_party/eigen3/*） : Mozilla Public License Version 2.0 ■spinn（third_party/examples/eager/spinn/*） : 3-Clause BSD License ■fft2d（third_party/fft2d/*） : Original License Copyright(C) 1997,2001 Takuya OOURA (email: ooura@kurims.kyoto-u.ac.jp). You may use, copy, modify this code for any purpose and without fee. You may distribute this ORIGINAL package.）

③ Official site

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Presence of official website

Official Website	https://www.tensorflow.org/

④Repository site

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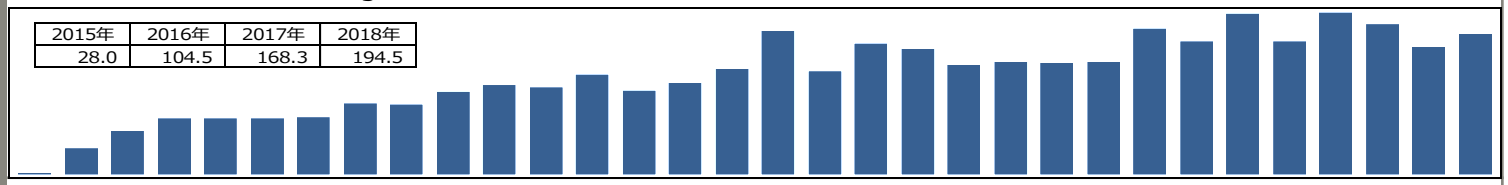
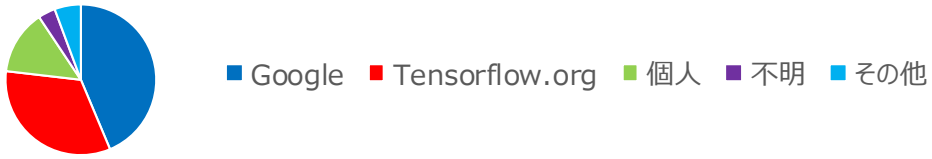
- Presence of a repository site that manages source code.
- When source code is released at repository site, developers and development trend can be visualized.

Repository Site	https://github.com/tensorflow/tensorflow

⑤Developers

- Whether the number of contributors is stable or not.
- If developers are suddenly increasing or decreasing due to acquisitions etc., follow-up observation is necessary.
- Also, if a specific company holds many copyrights, there is a possibility that the development policy will be changed only by speculation of a specific company.

Number of Contributors	There are 1,388 developers registered in GitHub, and the top 10 contributors are below. 01. TensorFlower Gardener（不明）8,832 commits 02. Benoit Steiner（Google）797 commits 03. Shanqing Cai（Google）596 commits 04. Vijay Vasudevan（Google）533 commits 05. Derek Murray（Google）510 commits 06. ebrevdo（Google）473 commits 07. Gunhan Gulsoy（Google）465 commits 08. Illia Polosukhin（Google）341 commits 09. Martin Wicke（Google）338 commits 10. Peter Hawkins（Google）332 commits
Active Contributors	
Organization	

⑥Development

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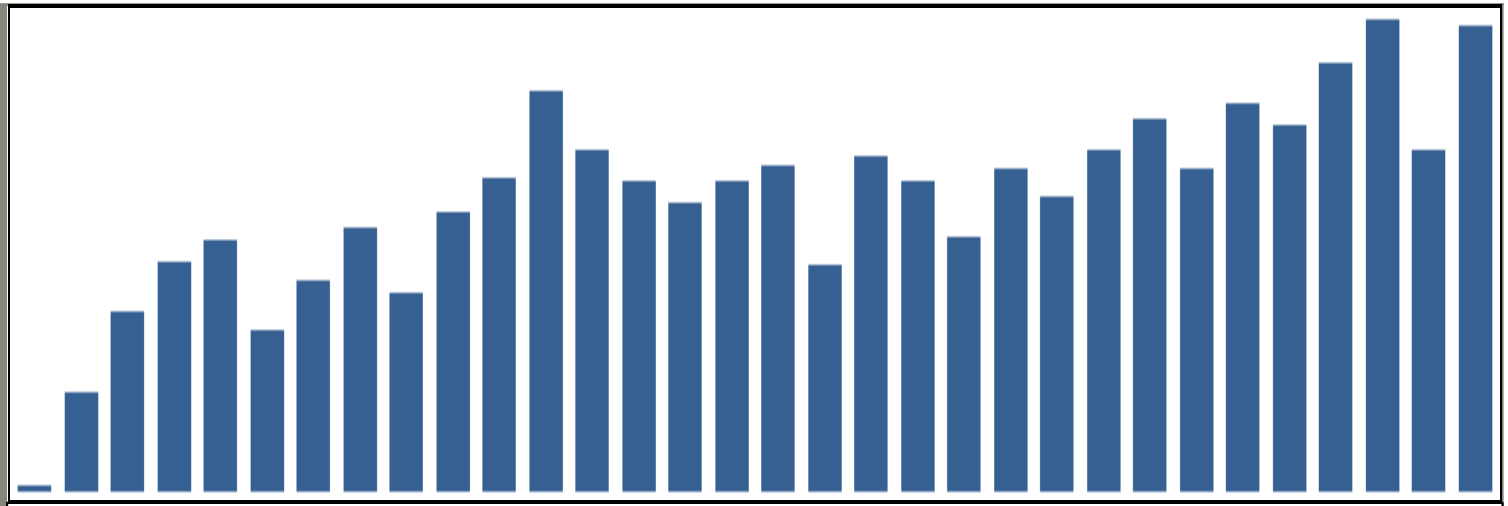
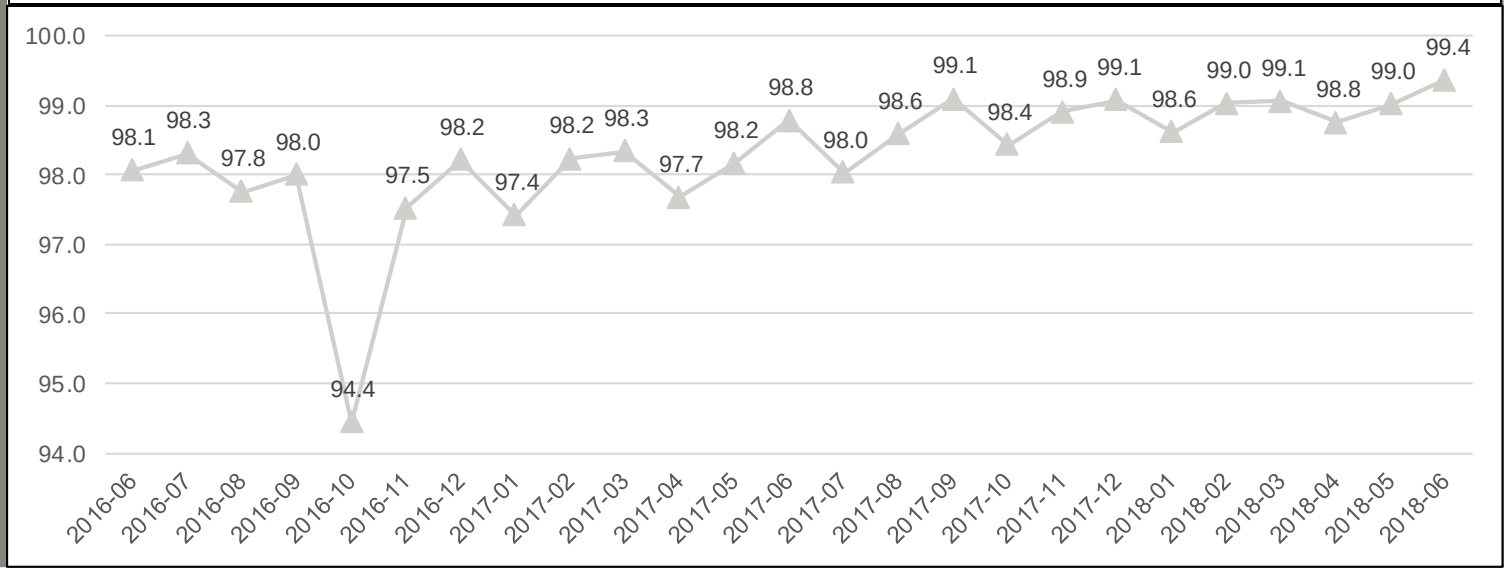
- Whether the development itself is stable or not.

Number of commits



Percentage of working days



⑦Release cycle

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- Is the update version released regularly?

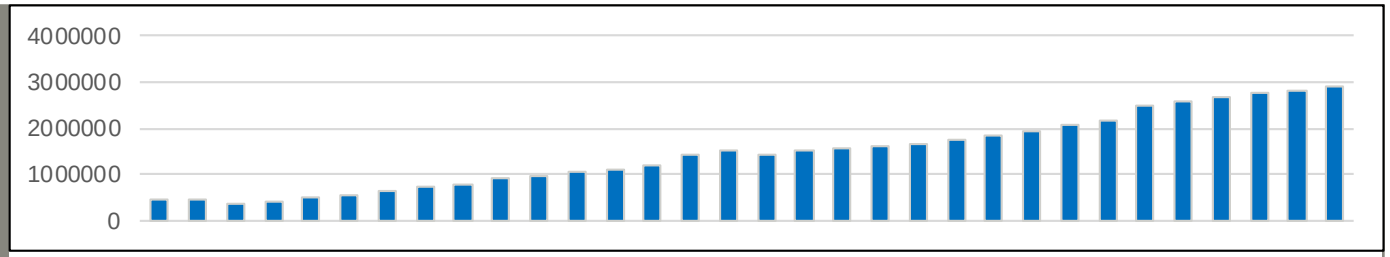
Release Dates	
	2015年11月9日　0.5.0
	2015年12月10日　0.6.0
	2016年2月10日　v0.6.0
	2016年2月16日　v0.7.0
	2016年4月22日　v0.8.0
	2016年6月21日　v0.9.0
	2016年9月8日　v0.10.0
	2016年11月9日　v0.11.0
	2016年12月19日　v0.12.0
	2017年2月11日　v1.0.0
	2017年4月21日　v1.1.0
	2017年6月14日　v1.2.0
	2017年8月17日　v1.3.0
	2017年11月1日　v1.4.0
	2018年1月25日　v1.5.0

⑧Source code quality

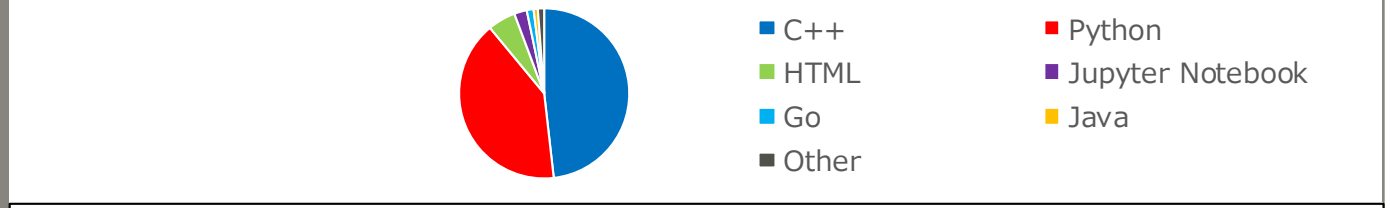
- The quality of the source code itself.
- Evaluate to measure maintainability from the number of lines of the source code and development languages.

Source Code

LOC

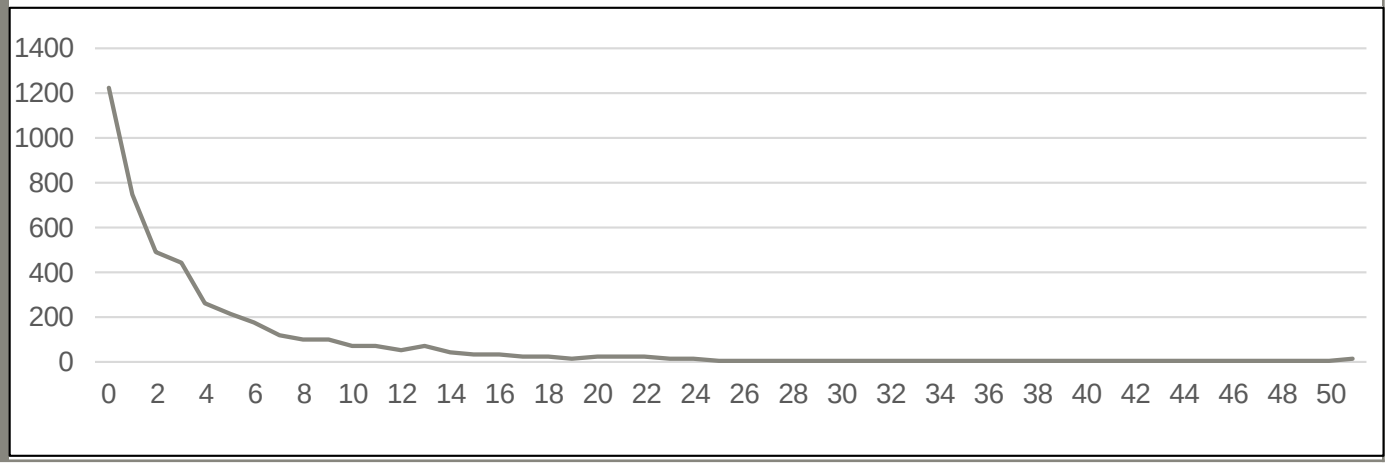


language



Metrics

Complexity



⑨Vulnerability

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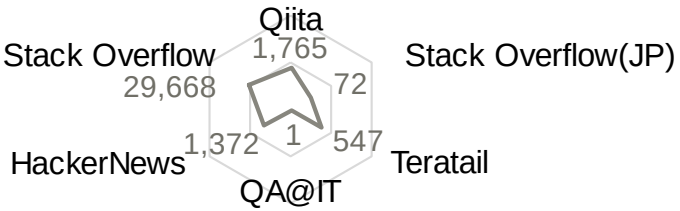
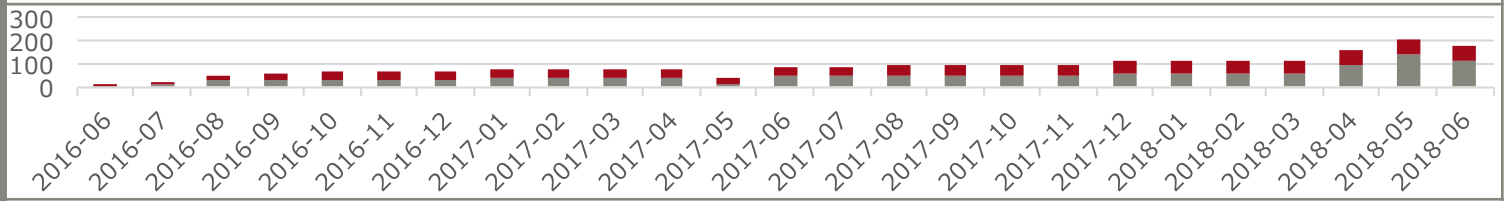
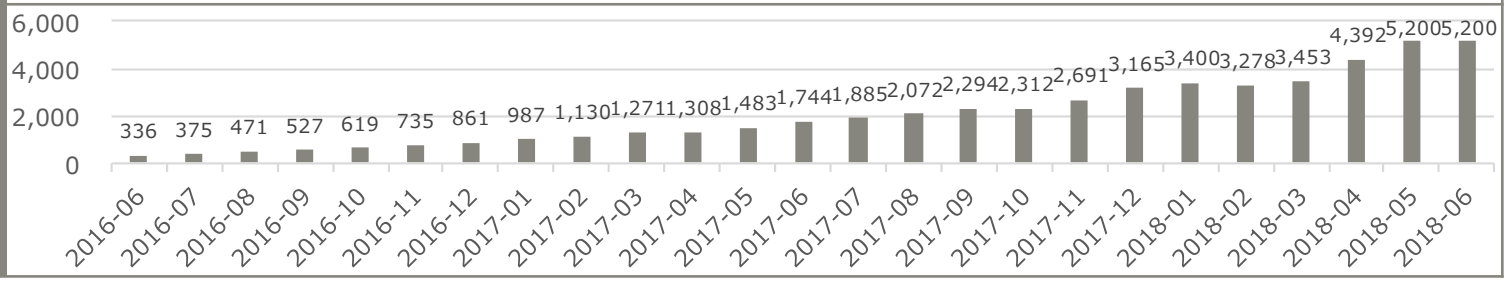
- Is the fix being made quickly for a serious vulnerability?

Vulnerability	There are no vulnerability related to TensorFlow.
Detail	(None)

⑩Technical information

- The degree of fulfillment of the official document and the degree of fulfillment of technical documents including books and presentation materials.

Manual	Programmer's Guide（https://www.tensorflow.org/programmers_guide/） API Documentation（https://www.tensorflow.org/api_docs/）
Technical Site	
Technical Site with specific tag	■ Qiita（https://qiita.com/tags/tensorflow） ■ Teratail（https://teratail.com/tags/tensorflow） ■ Stack Overflow(JP) （https://ja.stackoverflow.com/questions/tagged/tensorflow） ■ Stack Overflow（https://stackoverflow.com/questions/tagged/tensorflow）
Books	
Presentation materials	

⑪Case Study

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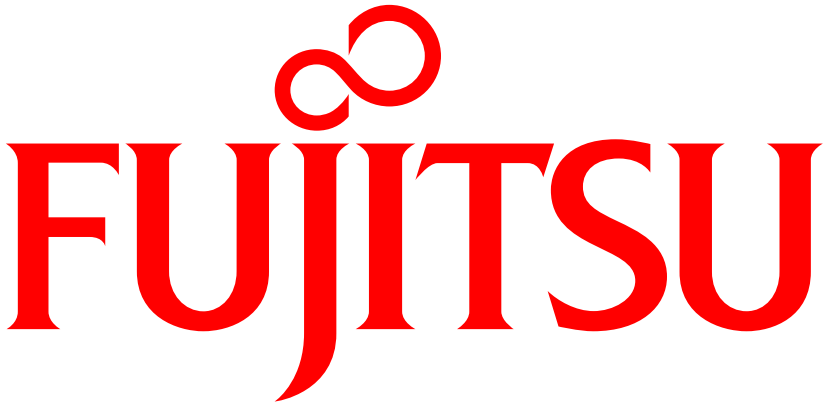
Is there general introduction record / case?

Case Study	
	• TensorFlow is used in over 100 companies, as Suggetsic, Pixlee, Stylight, and so on. (https://stackshare.io/Tensorflow/in-stacks#/) • QP Corporation – Discrimination of material failure by image recognition https://cloud-ja.googleblog.com/2017/06/google-ai.html • Yachiyo Engineering Co., Ltd. – Determine concrete deterioration by image http://www.brainpad.co.jp/news/2017/06/06/5381 • Use Tensorflow for sorting cucumbers http://news.mixi.jp/view_news.pl?id=5022865&media_id=34 • Available on NifCloud Deep Learning powered by Zinrai https://cloud.nifty.com/service/dl_zinrai.htm • Available on AWS Deep Learning AMI https://aws.amazon.com/jp/machine-learning/amis/ • Available on Google Cloud Machine Learning https://cloud.google.com/ml-engine/?hl=ja • Available on Microsoft Azure Machine Learning https://docs.microsoft.com/en-us/azure/machine-learning/data-science-virtual-machine/overview#whats-included-in-the-data-science-vm



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