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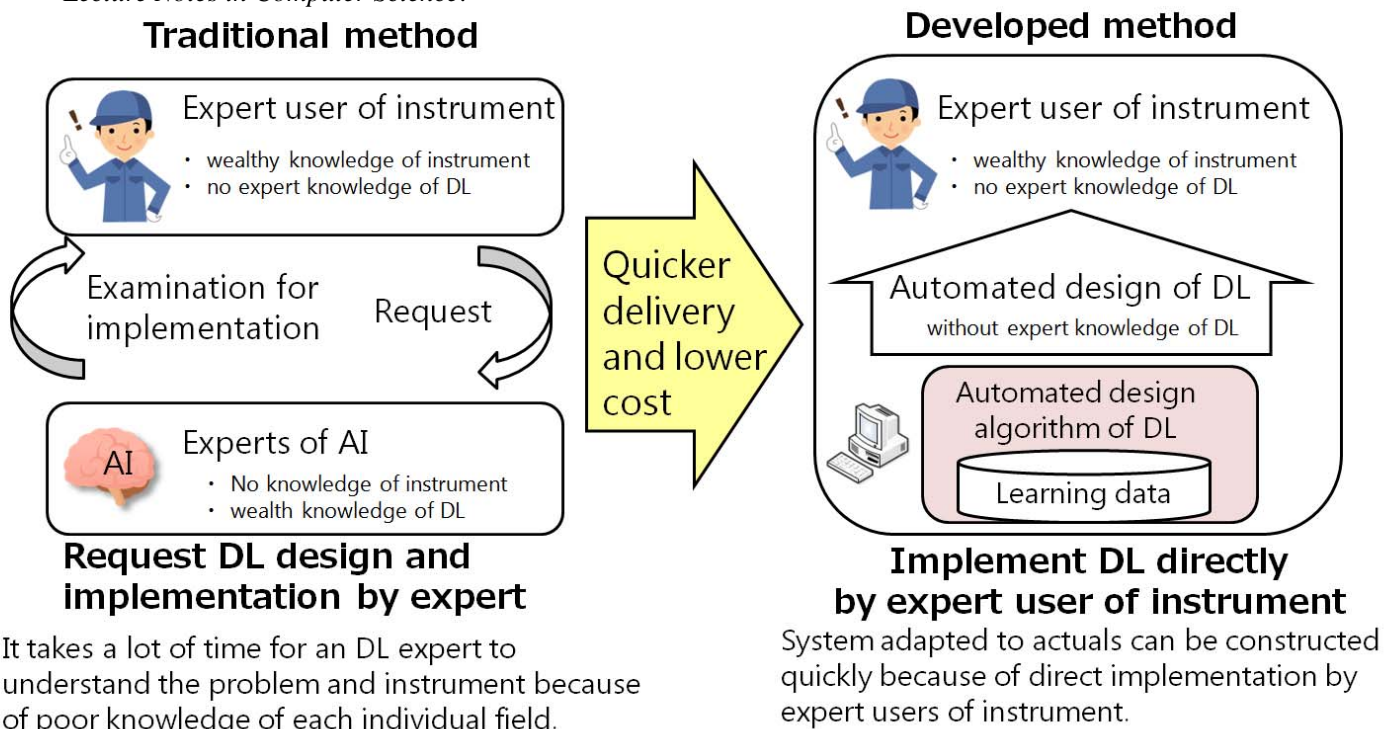
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Mitsubishi Electric Develops World’s First Automated Design Deep-learning Algorithm

Expected to facilitate development of fast, easy and low-cost AI

TOKYO, October 7, 2016 – [Mitsubishi Electric Corporation](http://www.MitsubishiElectric.com) (TOKYO: 6503) announced today that it has developed what it believes is the world’s first Automated Design Deep Learning Algorithm to automatically design deep-learning structures for the fast, low-cost development of artificial intelligence (AI) systems, without the input of specialized professionals, which can be adapted to diverse user environments and devices.

Mitsubishi Electric will present its new system at the International Conference on Neural Information Processing (ICONIP2016) from October 16 through 21 at Kyoto University and will publish a paper in *Lecture Notes in Computer Science*.



It takes a lot of time for an DL expert to understand the problem and instrument because of poor knowledge of each individual field.

System adapted to actuals can be constructed quickly because of direct implementation by expert users of instrument.

DL: Deep Learning AI: Artificial Intelligence

The algorithm adapts to the specific purposes of each system and designs deep learning automatically without expert knowledge by using learning data and high-level inferences to each instrument's environment based on learning data. It is expected to support the effective structuring of networks and reduce the trial and error of design.

The algorithm will shorten development time and reduce costs compared to current methods in which professionals manually design AI. Development is expected to require from just a few minutes to a few hours, whereas development by professionals can take from a few days to a few of weeks. It eliminates the need for specialized knowledge or experts, thereby lowering the cost of development.

Adapting design to the specific usage environment is essential for effective AI. However, the idea of non-experts designing deep learning was thought to be impossible because of the complexity involved. The new Automated Design Deep Learning Algorithm designs the structures and initial parameters of deep learning by extracting the most characteristic data from learning data without overlaps. Conventionally, this required the involvement of experts making high-level inferences about specific environments. The idea is based on "Neocognitron," image processing algorithm considered based on visual cortex.

The new system will enable AI to be used in diverse business fields, such as high-level information processing. The AI market was estimated to be worth 3.6 trillion yen (approximately US\$ 35 billion) in 2015 and annual growth is expected to average 30 percent, according to Ernst & Young Institute Co., Ltd.

Patents

Pending patents for the technology announced in this news release number one in Japan and one abroad.

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About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,394.3 billion yen (US\$ 38.8 billion*) in the fiscal year ended March 31, 2016. For more information visit:

www.MitsubishiElectric.com

*At an exchange rate of 113 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2016