

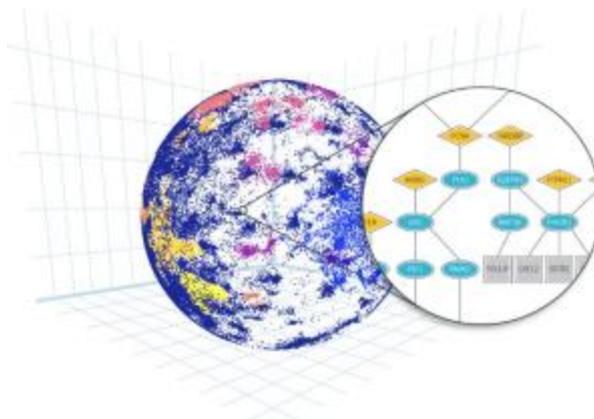
FRONTEO begins drug repositioning research for novel coronavirus (COVID-19) using AI

TOKYO, April 07, 2020 -- FRONTEO, Inc. ("FRONTEO") (TSE: 2158), a leading provider of artificial intelligence ("AI") services today announced that it will commence research on drug repositioning for the novel coronavirus (COVID-19) using its proprietary AI system "Cascade Eye (trademark pending)", which visualizes the mechanisms of diseases and drugs.

Cascade Eye is a system that uses artificial intelligence to analyze molecular, genetic, and other information related to various diseases in a short time, and is capable of visualizing this information in the form of a pathway map. Concept Encoder (conceptencoder®), FRONTEO's proprietary natural language processing AI engine, instantly searches the latest databases in PubMed and Open Targets for relevant papers and pharmaceutical research data and displays their respective relationships and mechanisms in a pathway. As the system utilizes AI-based judgment free of human preconception or bias, it can be applied to new targets and biomarkers that cannot be conceived of using existing knowledge, as well as projections regarding efficacy and safety. The system is also being considered for use in the development of individualized treatment including tailor-made therapies and personalized medicine.

In this research, FRONTEO will utilize Cascade Eye to construct a pathway map of the novel coronavirus (COVID-19) to visually identify crucial molecules, genes, and drug candidates in relation to novel coronavirus infection. Our aim is to discover the therapeutic potential of existing drugs, new targets and concomitant drug candidates to effectively block multiple pathways based on this visualized information. FRONTEO believes that the results of this research will lead to prevention of aggravation and early recovery.

The pathway map of the novel coronavirus infectious disease (COVID-19) created as a result of this research will be announced again in the form of press release so that it can be used in various organizations.



Articles and medical data analyzed by Cascade Eye are converted to location information and plotted in a spherical shape (left). In addition, the relationship between genes and molecules and the order of occurrence are expressed in a pathway map (right).



*1 PubMed: A database for searching for biology and medical papers. Created by NCBI (National Center for Biotechnology Information) located in the NLM (National Library of Medicine).

*2 Open Targets: A database for discovering potential drug targets through public-private partnerships.

About Concept Encoder URL: <https://lifescience.fronteo.com/>

Concept Encoder (conceptencoder®) is a natural language processing AI (artificial intelligence) system developed by FRONTEO specifically for use in the life sciences field. It was developed in 2018 with the aim of effective, evidence-based analysis and utilization of medical data containing large amounts of free-entry text data. Concept Encoder is also capable of co-analysis with data other than text, and research efforts are underway to co-analyze numerical data such as gene expression information, vital data, and various other test values accumulated in the life sciences domain. Patent Registration Number: Patent No. 6346367

About FRONTEO, Inc. URL: <https://www.fronteo.com/>

FRONTEO, Inc. is a data analysis company that supports information analysis with its proprietary natural language processing AI (artificial intelligence) engines "KIBIT®" and "conceptencoder®." Established in August 2003 as a company to support e-discovery (electronic evidence discovery), which supports evidence preservation, investigation, and analysis of electronic data necessary for legal matters such as international lawsuits, as well as digital forensic investigations, FRONTEO has applied its proprietary technologies such as its data analysis platforms to assist in roughly 10,000 international litigation measures to date. The AI-related technologies cultivated in the legal business have also been expanded to areas such as life sciences and business intelligence, and have achieved results in drug discovery research support, diagnostic support, and work style reforms. Listed on TSE Mothers on June 26, 2007. Capital of 2,559,206,000 yen (as of March 31, 2019).

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