Owkin Shares New AI-Severity Score for COVID-19 integrating CT Images Published to Nature Communications

Paris, France, January 27th 2021 — COVID-19 vaccine distribution has begun across the globe, while many countries are still struggling with the rampant rise of infections. Owkin, a French-American startup pioneering AI and Federated Learning in medical research, has been focusing it's COVID-19 research efforts on aspects of the pandemic that still require much public health attention, despite the arrival of an effective vaccine.

Efforts to support frontline health systems as they devote their resources to the influx of COVID-19 related hospitalizations, have resulted in the AI-Severity Score, published in *Nature Communications* this week . This machine learning model, trained on multimodal data sets that include CT scans of the lungs (a routine procedure upon admission), is plug and play and able to predict the severity of a patient's disease prognosis with a performance that surpasses all other currently published score benchmarks. Use of these scores supports hospital resource management and planning, a sometimes overlooked function that, when managed well, saves lives. This research was made possible through a consortium, called ScanCovIA, made up of Institut Gustave Roussy, Kremlin-Bicêtre APHP, Owkin, and Digital Vision Center of CentraleSupélec and INRIA.

Additionally, Owkin has been developing other machine learning models to discover more coronavirus epitopes that are most likely to be effective in future vaccines As the virus continues to mutate, we don't yet know how long the current vaccines will remain efficacious or if, like the flu, they will require annual or semi annual development. Furthermore, it may be possible to develop vaccines for genes within the virus's DNA that are more stable, and less likely to mutate. Epitope prediction can speed vaccine development by narrowing the field of epitopes to test in the lab, and it can diversify our defenses against the virus's future mutations. Furthermore, these models can be deployed outside vaccine research; they can also be used in oncology research. The ultimate aim of machine learning for epitope discovery is to have a better understanding of the immune response—these features of the model have their place across the spectrum of precision medicine research.

About Owkin

The French-American startup specialises in AI and Federated Learning for medical research. It’s multidisciplinary team of 100 people has expertise in the analysis of real-world data and

experience leveraging advanced machine learning technologies on multimodal cohorts. Co-founded in 2016 by Dr Thomas Clozel M.D., a clinical research doctor and former assistant professor in clinical hematology, and Dr Gilles Wainrib, Ph.D., a pioneer in the field of artificial intelligence in biology, Owkin has recently published ground breaking research at the frontier of AI and medicine in *Nature Medicine*, *Nature Communications* and *Hepatology*.

The Owkin platform connects several of the largest medical research centres and pharmaceutical companies in Europe and the US within a federated research ecosystem. Owkin unlocks medical insights from siloed datasets to help life science companies discover new drugs, identify novel biomarkers, optimise clinical trials and accelerate patient diagnosis.

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