NEWS

RSNA Press Release

SIIM, FISABIO, and RSNA Host Machine Learning Challenge for COVID-19 Detection and Localization

A Kaggle competition where winning algorithms are open sourced to improve patient care

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(Leesburg, VA, May 17, 2021) The Society for Imaging Informatics in Medicine (SIIM) is partnering with The Foundation for the Promotion of Health and Biomedical Research of Valencia Region (FISABIO), and the Radiological Society of North America (RSNA) to host a Machine Learning Challenge on COVID-19 Pneumonia Detection and Localization on Kaggle. The competition will use augmented annotations on the public chest radiograph datasets from the Medical Imaging Data Resource Center (MIDRC) - RSNA International COVID-19 Open Radiology Database (RICORD) and BIMCV-COVID-19 Dataset, created by an international group of volunteer radiologists from Brazil, Spain, and the U.S. using a commercial web-based tool from MD.ai. This challenge is supported by the National Science Foundation (NSF) Convergence Accelerator Grant that SIIM, along with its collaborators, was awarded in September 2020. SIIM's Corporate Impact Partners, HP and Intel, are providing $100,000 in prizes to bring awareness to SIIM's call for open-source AI models to populate the prototype Model Zoo built as a result of Phase 1 of this grant. The Model Zoo will serve as the basis for creating a clinical research testing of collaborative model-centric AI platform to meet the urgent needs of scalable validation and translation of model-centric AI in medical imaging. All competitors are encouraged to submit their open-source models to the prototype Model Zoo.

"SIIM is excited to participate with FISABIO, RSNA, HP, & INTEL in this year's COVID-19 pneumonia detection and localization challenge. As the COVID-19 pandemic continues to impact our lives, there is potential for artificial intelligence (AI) based solutions to help frontline clinicians across the world in managing COVID-19 patients, whether it is facilitating diagnosis, affecting treatment decisions or prognosticating outcomes," said Paras Lakhani, MD, Associate Professor of Radiology, Thomas Jefferson University Hospital, SIIM Machine Learning Steering Committee Member and Annotation Project Lead.

"FISABIO, which acts on behalf of an important consortium of Hospitals belonging to the Regional Ministry of Health in the Valencian Region and thanks to the grant awarded by the Regional Ministry of Innovation, Universities, Science and Digital Society, aims to become a demonstrator of the importance of Open Science for Research and Innovation in the Healthcare sector," said Maria de la Iglesia Vayá, PhD and IP from Biomedical Imaging Lab, FISABIO-CIPF. *"This initiative will demonstrate what it means to work as a team, the potential of AI to aid diagnosis and therefore, will allow public authorities to make a better*

use of health data for research purposes, and how it can contribute to the digital transformation. All this, without undermining the principle of data protection from the design and by default."

"RSNA is pleased to collaborate on this very important AI challenge," said John Mongan, MD, PhD, Chair of the RSNA Machine Learning Steering Subcommittee and Vice Chair for Informatics and Associate Professor of Radiology at the University of California, San Francisco. *"COVID-19 has dramatically impacted the way we conduct our personal and professional lives. RSNA developed RICORD as a multinational, multi-institutional, expert-annotated COVID-19 imaging data set designed for the AI community. Having freely available, comprehensive medical imaging data sets for use in challenges like this is an important step toward using AI to improve patient outcomes."*

"Z by HP is committed to providing solutions to data scientists that help tackle complicated datasets by delivering a streamlined out-of-box experience on our Z workstations, letting users get to work on workflows on day one," said Jeri Culp, Head of Data Science, Advanced Compute and Solutions, HP Inc. *"The SIIM-FISABIO-RSNA Kaggle Challenge is the perfect example of the good that can be done when the data science community comes together with a common goal and we're thrilled to be able to support the winners with well-deserved recognition from Z by HP and Intel for their efforts."*

Challenge participants will develop high quality computer vision models to detect and localize COVID-19 pneumonia to help doctors provide a quick and confident diagnosis, thus improving patient care by enabling the right treatment before the most severe effects of the virus take hold.

SIIM, FISABIO, and RSNA will use their respective talents and resources to promote deployment of the winning algorithms into clinical use for the benefit of the greater medical imaging community, improving quality and efficiency in healthcare.

The COVID-19 Detection and Localization challenge is being kicked off one week before SIIM's 2021 Annual Meeting, May 24-27, where representatives of the host organizations will discuss the behind the scenes of organizing this competition, to include details on the datasets used, the annotation methodology, and the competition metrics. The winners will be presented on September 19-20 at the 2021 Conference on Machine Intelligence in Medical Imaging (CMIMI).

About the Society for Imaging Informatics in Medicine

The Society for Imaging Informatics in Medicine (SIIM) is the leading healthcare professional organization for those interested in the current and future use of informatics in medical imaging. The society's mission is to advance medical imaging informatics across the enterprise through education, research, and innovation in a multi-disciplinary community.

About FISABIO, The Foundation for the Promotion of Health and Biomedical Research of Valencia Region

The Foundation for the Promotion of Health and Biomedical Research of Valencia Region, FISABIO, is a non-profit scientific and healthcare entity, whose primary purpose is to encourage, to promote and to develop scientific and technical health and biomedical research

in Valencia Region. The BIMCV facility is connected with a multi-level vendor neutral archive (VNA). The imaging population facility is storing data from the Valencia Region, which accounts for more than 5.1 million habitants.

About The Radiological Society of North America (RSNA)

RSNA is an association of radiologists, radiation oncologists, medical physicists and related scientists, promoting excellence in patient care and health care delivery through education, research and technologic innovation. The Society is based in Oak Brook, Ill. (*RSNA.org*). RSNA supports and facilitates research in the use of artificial intelligence in medical imaging by sponsoring an ongoing series of AI challenge competitions.

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