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The Network Verification Challenge uses a crowd-verification process to fine-tune and verify sophisticated biological networks. The resulting models represent the current status of scientific knowledge as related to a given set of networks.

Singapore: Network Verification Challenge, an initiative that provides scientists with a powerful new methodology for defining and verifying biological networks, has opened for submissions from the global scientific community.

The Challenge uses a crowd-verification process to fine-tune and verify sophisticated biological networks. The resulting models represent the current status of scientific knowledge as related to a given set of networks, and provide a framework by which other biological networks can be visualized, expanded and verified.

“The Network Verification Challenge is uniquely placed to help us generate accurate, comprehensive and reliable models of biological networks,” said Professor Martin Hofmann-Apitius, head, department of bioinformatics at the Fraunhofer Institute for Algorithms and Scientific Computing SCAI, which developed part of the online platform that Challenge participants use to work on the networks.

He further said, “This is an exciting new approach to network verification which has a number of implications, including the potential to provide an accelerated mechanism for the dissemination and validation of scientific knowledge, better maps of disease and improvements to therapeutic discovery and development.”

The Challenge is part of the sbv Improver project (systems biology verification: Industrial Methodology for PROcess VErification in Research), a collaborative initiative by IBM Research and Philip Morris International R&D, which is designed to develop a robust, transparent and practical process for assessing complex scientific data. Within this framework, it also provides an approach for the verification of systems biology data and thus

contributes in a variety of ways to improvements in human healthcare and other scientific and industrial areas.

The Network Verification Challenge also involves Selventa, a personalized healthcare company pioneering the analysis of big data to unravel the complexity of disease. Selventa has played an important role in the development of the biological networks used in this challenge and also developed the software that allows visualization of the models.

“The sbv Improver project is a truly unique initiative which is addressing some of the most fundamental issues facing the scientific community today, including: how can we cope with the explosive growth of data confidently, thoroughly and practically,” said Dr David De Graaf, president and CEO, Selventa.

“By providing high-quality data sets to any scientist who wishes to look at them, openly and for free, and then asking them to scrutinize that data as part of the crowd, we are helping to forge the way towards a more transparent, collaborative and robust framework in which scientific research is conducted,” added Dr Graaf.

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