IST Lecture
Gunnar Carlsson
Stanford University

Topological methods for artificial intelligence

Over the last 15-20 years, the idea that methods of topology (the mathematical discipline that studies shape) can be used effectively to study large and complex data sets has gained a great deal of currency, and there are numerous and diverse examples of powerful applications. The idea is that there should be a new method of mathematical modeling, whose output is not an equation or system of equations but rather a network or graph that represents the "shape" of the data. We have recently found that the methods are particularly appropriate for integration with the Deep Learning methodology. I will discuss the methods, with numerous examples.

Gunnar Carlsson, Professor Emeritus at Stanford University, is an American mathematician who specializes in Algebraic Topology. He is especially known for his work on Segal's Burnside ring conjecture as well as topological data analysis. In addition, Carlsson is the cofounder and president of Ayasdi, a predictive technology company that focuses on big data, machine learning and artificial intelligence. He has received numerous NSF grants and many other notable awards and grants such as the Alfred P. Sloan Fellowship as well as grants from the Air Force Office of Scientific Research and the Office of Naval Research.

2019-04-24

Wednesday | April 24, 2019 | 05:00 pm - 06:00 pm
Raiffeisen Lecture Hall, IST Austria, Klosterneuburg

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http://ist.ac.at/ist-Lecture-registration

Free shuttle buses are provided to / from campus: **IST shuttle #142:** 4:03 pm from U4 Heiligenstadt/public bus stop (return from IST Austria campus at 6:40 and 7:10 pm) – please show this flyer to the driver as ticket! **Special IST Lecture shuttle:** 4 pm from the Schwedenplatz/night bus stop (return from IST Austria campus at 7 pm) – register online!

This invitation is valid as a ticket for the IST Shuttle (#142) from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage (note that the IST Shuttle times are marked in dark green): **https://ist.ac.at/fileadmin/user_upload/pdfs/IST_shuttle_bus.pdf**
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