

DBT-NCCS holds webinar on AI & Machine Learning for biologists

New Delhi, Sep 23: Artificial intelligence (AI), machine learning (ML) and deep learning have become buzzwords in recent times. People are often aware of popular technologies, such as driverless cars, that depend on AI. However, they are less aware of the fact that AI and ML play a big role in basic sciences too.



To give science enthusiasts an opportunity to learn about how AI and ML are becoming an integral part of research in biology, a webinar on the topic, ‘Introduction to AI & Machine Learning for Biologists’ was held on 17 September, 2020. This session was presented by Dr. Gitanjali Yadav, Scientist at the National Institute of Plant Genome Research, India, and Lecturer at the Department of Plant Sciences, University of Cambridge, UK.

She discussed what AI & ML entail, what tasks can be accomplished with these tools, how AI differs from human intelligence and how bridging this gap between the two could be approached. She also presented an overview of how this emerging area has been influencing the Indian health and agricultural sectors, and presented a few case studies from her own research, where she uses deep learning to understand plant chemistry. The webinar was open to all and free of cost. Interested participants were invited to register at the link: shorturl.at/dlzT8

This webinar is one of several in the data science webinar series which was initiated to help increase awareness about various aspects of data science. This includes applications of data science across disciplines, from public health and pandemics to astronomy, as well as the entrepreneurial opportunities available in this field. These webinars also give the participants an opportunity to interact with experts from diverse fields around the world, during the Q&A session. This series is aimed mainly at college students, but is open to everyone. It is being organized under the auspices of the “Manav: Human Atlas Initiative”, a collaborative project between the National Centre for Cell Science (DBT-NCCS), the Indian Institute of Science

Education and Research (IISER-Pune) and Persistent Systems. This initiative, exemplary of a public-private partnership, is funded by the Department of Biotechnology (DBT), Government of India, and co-funded by Persistent Systems. It aims to annotate the extensive information related to the human body that is available in the scientific literature and databases, to initiate steps towards creating a human atlas eventually. The project aims to help students across India to learn how to comprehend and analyze scientific literature, and extract relevant information from it using a digital annotation tool. Online workshops on how to read scientific literature are also routinely conducted. Colleges interested in having a session organized for their students can write to manav.iiserpune@gmail.com. Students, faculty members and researchers interested in participating in the project can learn more from the project's website (<https://manav.gov.in/>) and social media: Twitter (Manav Human Atlas; @ManavAtlas) & Facebook (MANAV Human Atlas). The Rajya Sabha TV has also featured this initiative on Gyaan Vigyaan & Science Monitor.

The data science webinar series was initiated to meaningfully engage students and other science enthusiasts in an interactive educative experience during the lockdown. It was kick-started at the end of April with a webinar on “R0: How scientists quantify the intensity of an outbreak”. This was followed by webinars on diverse topics, including “Data Science Approaches for Genomics and Pandemics”, “Biomedical NLP at Scale: Automated inference of Biological Networks”, “The Future Research Scientist in the Age of AI and Big Data”, “When and where to divide to conquer: Personalized medicine using systems and machine-based biology approaches”, “Game Theory: Applications in biology & in a pandemic”, “Networks matter! Estimating the spread of disease in heterogenous, connected environments”, “Machine Learning & Deep Learning Applications in Astronomy & Biology”, “Personalized Precision Cancer Therapy”, and “Entrepreneurial Promises of Data Science”. This series has been hugely successful, having attracted thousands of registrations, mainly from students. Given its popularity, the previous webinars have now been made available on the project's YouTube channel, to anyone interested in listening to these talks.

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Link: <https://www.nccs.res.in/>