Data Science Seminar Series

Monday, October 30, 9:30-10:30 am, OM1241

TITLE

Leveraging Advanced Machine Learning and Geospatial Analysis for Biodiversity Conservation: AI Solutions for Safeguarding Endangered Species

SPEAKER

Dr. Ajay Dhruv

ABSTRACT

In an era of unprecedented environmental challenges and declining biodiversity, advanced machine learning and geospatial analysis stand as potent allies in conservation efforts. These cutting-edge AI solutions are pivotal in safeguarding endangered species. By seamlessly blending machine learning algorithms with rich geospatial data, they enable precise ecosystem monitoring and preservation. These AI-driven models leverage diverse datasets, from satellite imagery to on-the-ground observations, to predict species distribution, assess habitat suitability, and understand population dynamics. Furthermore, AI's innovative use in computer vision and image recognition techniques aids in species identification and tracking. Real-world applications, such as camera traps, drones, and acoustic sensors, facilitate critical data gathering on elusive and endangered species. The collaboration between data scientists, conservationists, and local communities remains central to formulating effective conservation strategies. Through harnessing AI's capabilities, the goal is to protect not only endangered species but also make significant contributions to broader biodiversity conservation and ecosystem revitalization objectives. This exploration of the convergence between artificial intelligence, geospatial analysis, and conservation biology showcases how technology plays a pivotal role in securing the future of our planet's most at-risk inhabitants.

BIOGRAPHY

Dr. Ajay Dhruv is a distinguished scholar in academia, researcher, and author who currently serves as an Assistant Teaching Professor with the Department of Computing Science at Thompson Rivers University. He has an impressive track record, with more than 15 international licenses to his credit in the field of Artificial Intelligence. Dr. Dhruv is also an esteemed editorial board member of the International Journal of Data Science and Analysis, USA. His research interests include statistical machine learning, deep learning, neural networks, hyperparameter tuning, and optimization. He has contributed significantly to several research projects, academic publications, and conference presentations.

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