Dr. Sanjay Padhi
National Science Foundation

Predictive Analysis using Amazon Web Services
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Abstract: One of the most explored features of Big Data is predictive analytics. Predictive analytics is a set of techniques that are fundamental to large organizations like Amazon. Methods such as Machine Learning are used in many aspects of life, including health care, education, financial modeling, and marketing. Analytics on Big Data has given rise to various "smart" projects, such as Connected Intersections, Smart Cities, and Smart Health. This talk will provide a range of such studies using predictive analytics including detailed overview of methods such as Machine Learning (ML) and Deep Learning using AWS. Fully managed Artificial Intelligence (AI) services to help researchers build, train and deploy ML models in various domains including Computer Vision and Natural Language Processing (NLP) will also be outlined. Supervised and unsupervised based learning frameworks and its implications in the fields of Scientific Computing, Medical Imaging, Cancer detection, Diabetic Retinopathy, and Voice-enabled solutions to improve management of chronic disease will be discussed. The AWS Research Initiative with funding agencies such as the National Science Foundation (NSF) in the domains related to the foundation and innovative tracks, as well as AWS Research Credit program will also be outlined.

Biography: Dr. Sanjay Padhi, leads the AWS Research Initiatives including AWS's federal initiatives with the National Science Foundation. Dr. Padhi has more than 15 years of experience in large-scale distributed computing, Data Analytics and Machine Learning. He is the co-creator of the Workload Management System currently used for all the data processing and simulations by CMS, one of the largest experiments in the world at CERN, consisting of more than 180 institutions across 40 countries. He also co-founded the ZEUS Computing Grid project at Deutsches Elektronen-Synchrotron (DESY), Germany before joining CERN. Sanjay obtained his Ph.D. from McGill University in High Energy Physics and is also currently appointed by the Dean of Faculty as an Adjunct Professor of Physics at Brown University.