Orange

Orange is an open-source toolkit for data visualization, machine learning, and data mining. It provides a visual programming front-end for rapid exploration and qualitative analysis of large qualitative datasets.Description.

Visual programming is done with Orange, a component-based software package for visualization, machine learning, data mining, and data analysis.

There are many orange components and they range from simple types of data visualization, subset selection, and preprocessing, to empirical evaluations of learning algorithms and predictive modeling.

Visual programming is implemented through an interface in which workflows are created by linking predefined or user-designed widgets, while advanced users can use Orange as a Python library for data manipulation and widget alteration.

Orange is supported on macOS, Windows and Linux and can also be installed from the Python Package Index repository

Orange has a canvas interface where the user may drag and drop widgets to create a data analysis pipeline. Basic widget functions include reading data, displaying a data table, selecting features, training predictors, comparing learning methods, visualising data items, and so on. The user can examine visuals interactively or pass a portion of them into other widgets.

Objectives

The application is utilised in biomedicine, bioinformatics, genetic research, and teaching and provides a platform for experiment selection, recommendation systems, and predictive modelling. It is used in science as a platform for testing new machine learning algorithms and incorporating new genetics and bioinformatics techniques. It was used in education to teach students of biology, biomedicine, and informatics machine learning and data mining approaches.

On 23rd January, 2021 a webinar on Data Analysis & Visualization using Orange Software which was attended by students of Data Science and Business Analytics.

The resource person Dr. Sangita Chaudhari first gave the basic insights about the Orange software and its major uses, we even gained basic knowledge on many visualisation tool kits avaialble in it.

Dr. Sangita Chaudhari proceeded by conducting a Hands on Training Session on the same where students understood the implementation. The objective and usage of the same in real world problems as well as understanding projects.

As a whole the session was very fun, interactive and very informative.