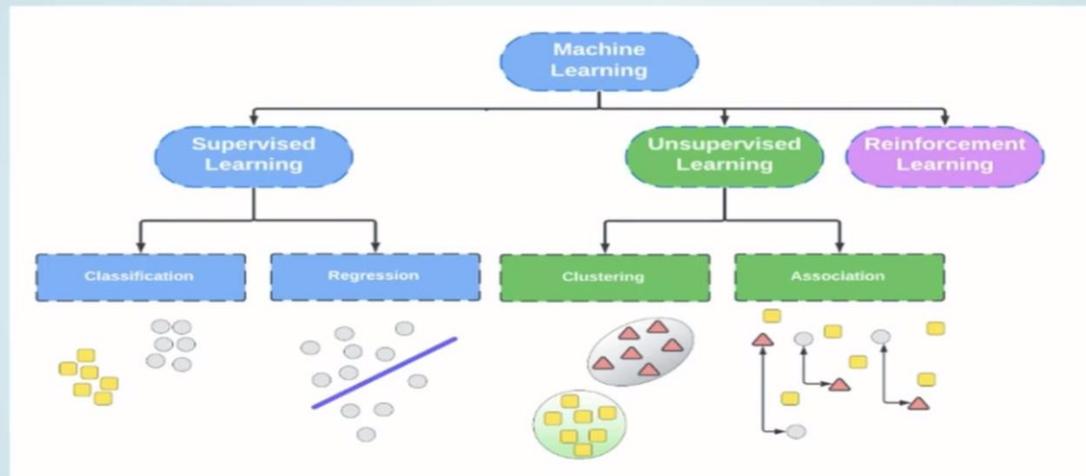


A.T.O.M Projects and Sessions

1. Introduction to Machine Learning #1 | Atom x GDSC



Have you ever imagined a future in which robots could think like humans? What if we told you there is already a solution? Well, not entirely.□□

GDSC MAIT, in collaboration with A.T.O.M Robotics Lab of MAIT on 31st of March 2023 presented an exciting event for all Machine Learning enthusiasts titled "From Patterns to Predictions!" □□

Highlights of the event: □□

1. Introduction to Machine Learning
2. Learn about various libraries and models that are popularly used in machine learning.

Session Recording: <https://youtu.be/rXeIRRfOoag>

2. Roboflow and Data Augmentation

The screenshot shows a Zoom meeting interface. At the top, it says "Meeting Room 1" and "chosen_One's Screen". The video resolution is "720p 30FPS" and it is "LIVE". The main content is a browser window displaying the TensorFlow.js documentation for `tf.keras.preprocessing.image.ImageDataGenerator`. The page title is "TensorFlow v2.11.0" and the sub-page is "tf.keras.preprocessing.image.ImageDataGenerator". The description says "Generate batches of tensor image data with real-time data augmentation." There is a "View classes" button and a code block showing the following Python code:

```
tf.keras.preprocessing.image.ImageDataGenerator(
    featurewise_center=False,
    featurewise_stddev=False,
    featurewise_center_epsilon=1e-10,
    featurewise_stddev_epsilon=1e-10,
    rotation_range=180,
    width_shift_range=0.1,
    height_shift_range=0.1,
    zoom_range=0.1,
    shear_range=0.1,
    channel_shift_range=0,
    fill_mode="nearest",
    cval=0,
    horizontal_flip=True,
    vertical_flip=False,
```

At the bottom of the Zoom window, there is a grid of participant avatars. From left to right, the avatars are: "topguns837", "processin...", "chosen_O...", "Brad", "NOE...", "Mr_N...", "Sky...", "Hra", "kakash", and "Dilruba". There is also an "Invite to Stream" button and various meeting controls like mute, video, and chat.

In this session, we will provide an Introduction to Roboflow Walkthrough for Data Augmentation. Roboflow is an open-source platform that simplifies the process of creating and managing computer vision datasets. Data augmentation is a technique used in computer vision to generate new images from existing ones by applying various transformations like rotation, flipping, resizing, and more.

During the session, we will cover the following topics:

1. Overview of Roboflow and its features
2. Introduction to data augmentation and its importance
3. Walkthrough of the data augmentation process using Roboflow
4. Hands-on practice with Roboflow to create augmented datasets

Whether you are a beginner or an experienced computer vision practitioner, this session will provide you with valuable insights and practical knowledge to enhance your skills. Join us for an informative and engaging session on Introduction to Roboflow Walkthrough for Data Augmentation.

Session Recording: <https://youtu.be/dnzx0T67XnQ>

3. EYRC Introductory Session by A.T.O.M in collaboration with eYantra, IITB

IIT Bombay
eYantra
Engineering a Better Tomorrow

ATOM ROBOTICS LAB
The Robotics Society of MAIT

A.T.O.M

MAIT

presents you

An Interactive Session on
**e-Yantra
Robotics
Competition**

AUGUST 23, 2022
11AM(IST)

scan this QR code to
join the session

**Live Q&A with
Mentors, past Interns
& EYRC finalists**

Platform : A.T.O.M's discord
server

On the 21st of August 2022, A.T.O.M Robotics organized an interactive online session in collaboration with eYantra, IITB to provide an overview of the 'eYantra Robotics Competition' conducted. The session was conducted for those individuals who are either interested in robotics and want to know more about the competition or just want a challenge to proceed with.

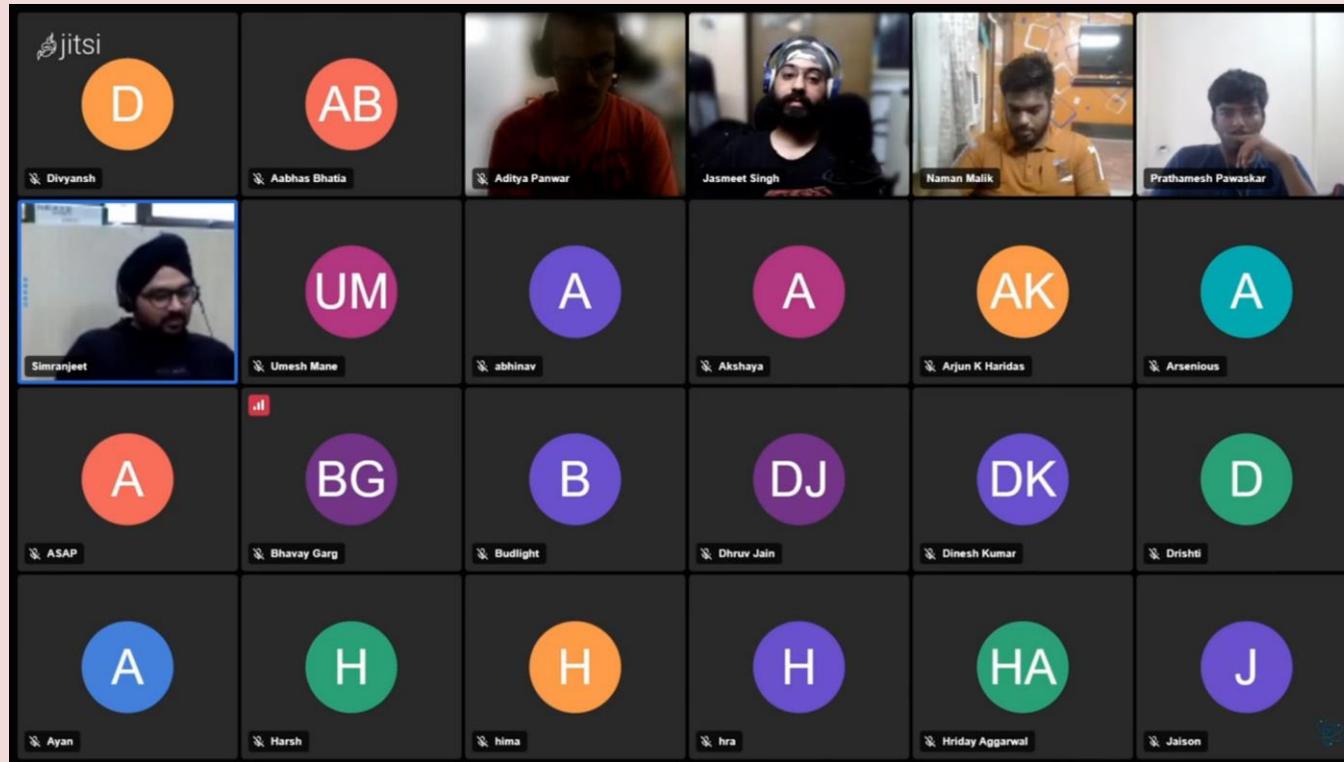
The seminar was interactive and was joined by experts from eYantra staff and several Winners and Interns from last year's competition. The objective of the online session was to gather competitors, mentors, past winners, and other stakeholders in order to help students prepare for the competition.

The session was very interactive and informative. We talked about the benefits of taking part in the eYantra Robotics Competition, and how it provides an edge in preparation for workplace success and helps in the development of an intuitive learning process among the students. The Participants learned about:

- What is it?
- The prizes & benefits
- The registration process
- The edge associated with this competition
- How teams can participate
- Key points for better performance in competition
- Insights from the mentors and past winners

Session Recording: <https://www.youtube.com/watch?v=tC0cr4VQ1t0&t=1s>

Links to our Socials: <https://linktr.ee/atomlabs>



The Event was quite a success. The interactive session had a great level of engagement where students got key insights from mentors and past winners in order to get an edge in the competition, manage their time with the competition and college studies and clarified their doubts regarding the competition.

4. Documentation Drive By A.T.O.M



On 8th September, 2022, A.T.O.M Robotics organised an all day documentation drive.

At A.T.O.M Robotics, we very much promote OpenSource softwares and projects since we use many open source tech stacks and softwares in all our projects, it makes sense to give it back a little by Open Sourcing all our projects and providing proper documentation for people all around the world can contribute and make a good use with projects we built.

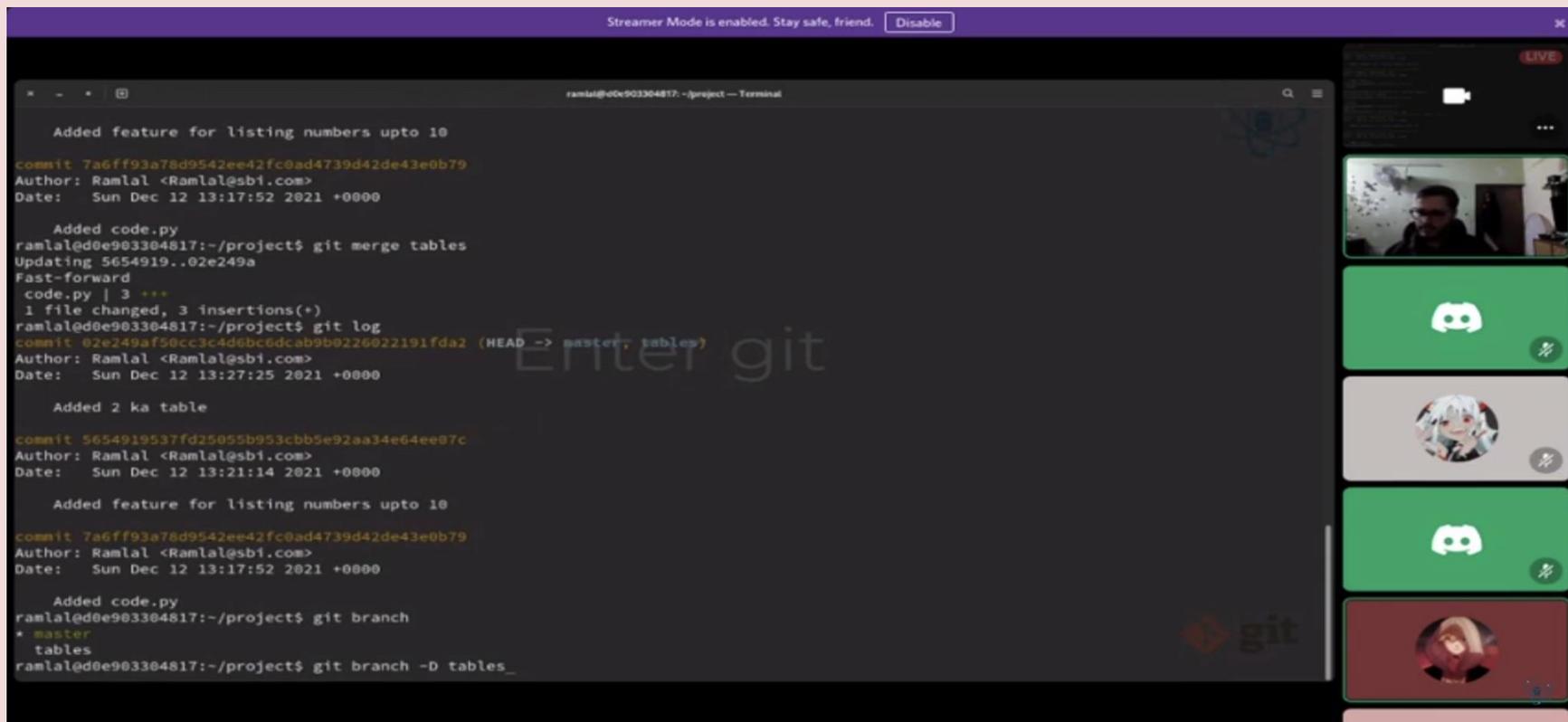
5. CAD Session



On 10th March 2021 a session on Computer aided designing was conducted. During the session, the students were given an overview of the software interface and the basic tools and functions used in CAD design.

They were taught how to create 2D and 3D models, add dimensions and constraints, and create assemblies. The students were also given hands-on practice using the software to create simple designs.

6. Git Session



The screenshot shows a live stream interface. At the top, a purple banner reads "Streamer Mode is enabled. Stay safe, friend." with a "Disable" button. The main content is a terminal window with the following text:

```
Added feature for listing numbers upto 10
commit 7a6ff93a78d9542ee42fc0ad4739d42de43e0b79
Author: Ramlal <Ramlal@sbi.com>
Date: Sun Dec 12 13:17:52 2021 +0000

Added code.py
ramlal@d0e903304817:~/project$ git merge tables
Updating 5654919..02e249a
Fast-forward
 code.py | 3 +
 1 file changed, 3 insertions(+)
ramlal@d0e903304817:~/project$ git log
commit 02e249af50cc3c4d0bc6dcab9b0226022191fda2 (HEAD -> master, tables)
Author: Ramlal <Ramlal@sbi.com>
Date: Sun Dec 12 13:27:25 2021 +0000

Added 2 ka table
commit 5654919537fd25055b953cbb5e92aa34e64ee07c
Author: Ramlal <Ramlal@sbi.com>
Date: Sun Dec 12 13:21:14 2021 +0000

Added feature for listing numbers upto 10
commit 7a6ff93a78d9542ee42fc0ad4739d42de43e0b79
Author: Ramlal <Ramlal@sbi.com>
Date: Sun Dec 12 13:17:52 2021 +0000

Added code.py
ramlal@d0e903304817:~/project$ git branch
* master
  tables
ramlal@d0e903304817:~/project$ git branch -D tables_
```

A large, semi-transparent watermark "Enter git" is overlaid on the terminal output. On the right side of the stream, there is a vertical panel with a "LIVE" indicator, a video feed of the streamer, and several Discord user avatars, including one with a white anime-style character and another with a red anime-style character.

On 14th december 2021, A beginner session on getting started with Git. The session aims at providing a practical demo to git focusing on following topics:

- 1) Why does git matter (specifically considering version control & remote collaboration without git)
- 2) Basic trends in structuring and managing your project with git (branching, importance of master/main branch)
- 3) Practical demonstration of using the git command line tool on ubuntu
- 4) Setting up remotes on GitHub.

Session Recording: https://youtu.be/D_-NZznU5T8