

 0 "This slide shows the progress of our real-time object recognition system.

In Figure 6 and Figure 7, you can see successful face detection and labeling of individuals using our AI model in outdoor environments.

These demos demonstrate the practical application of our generative AI approach in real-world scenarios, ensuring reliable detection with accurate bounding boxes."

Slide 1: Project Plan (≈ 1 minute)

"Our thesis is titled 'Variants of Image Generation for Real-Time Object Recognition using Generative AI'.

This slide shows the overall project plan divided into **four steps**.

- **Step 1:** We began with reading research papers, identifying problems, reviewing literature, and collecting datasets.
- **Step 2:** Then we selected the best existing paper as a benchmark for our model.
- **Step 3:** Based on that, we developed and trained our own models.
- **Step 4:** Finally, we evaluated the models and prepared the report and documentation.

This structured flow helped us maintain a clear direction from research to execution."

Slide 2: Gantt Chart (≈ 1 minute)

"This Gantt chart shows our timeline for the year 2025.

- From **February to June**, we focused on **research and problem identification**.
- **Dataset collection and preprocessing** started in **March** and continued till **July**.
- **Model development and training** took place from **May to early October**.
- After that, we spent **October and November** on **evaluation and comparison**.
- Finally, in **November and December**, we completed the **report and documentation**.

We overlapped some tasks to make better use of time and ensure continuous progress."

Slide 3: Budget (≈ 1 minute)

"This table shows the estimated budget for the project.

- For hardware, we included GPU upgrade, extra RAM, processor, and SSD—totaling a significant portion.
- Under **dataset collection**, we budgeted for actor/labor costs and cloud storage.

- For **software and tools**, we considered licenses and paid libraries.
- We also used **cloud GPU services** for model training.
- Lastly, **printing and documentation** was included as a miscellaneous cost.

The total estimated budget is **236,899 BDT**, covering all critical project needs."

Presentation Script (1.5 minutes)

[Start – Future Activity Slide – 45 seconds]

"Moving on to future activities, the next steps in this project include four main tasks:

First, I will focus on **model creation**, where I'll design a generative model tailored for real-time object recognition.

Next is **model training**, using datasets to teach the model how to generate and recognize image variants.

After that, I will perform a **comparison with existing approaches** to evaluate performance improvements.

Finally, the results will be documented for **paper writing and publication**.

As shown in the pie chart, around **35% of the work is complete**, including data preparation and preliminary setup. The remaining **65%**, which includes the technical implementation and evaluation, is planned for the upcoming weeks."

[Transition – Conclusion Slide – 45 seconds]

"In conclusion, this study introduces a new method to enhance real-time object recognition by using **Generative AI**.

The idea is to generate **30 synthetic image variants** from each input and feed them into a **deep neural network**. This significantly expands the training data and improves the model's ability to generalize.

As a result, this approach leads to a noticeable improvement in recognition performance, especially in real-time scenarios.

Overall, the project demonstrates how generative techniques can play a key role in advancing object recognition systems."

"That concludes my presentation. Thank you all for your attention and time. I'm happy to take any questions you may have."