SOMAIYA VIDYAVIHAR UNIVERSITY

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Batch: A4	**Roll No.: 16010122147**
Experiment N0: 07	
Group No: 3	

Title: Chapter No:7 Conclusion and future work

Expected Outcome of Experiment:

CO3: Implement and prototype creation for the specified application.

Books/ Journals/ Websites referred:

[Students can mention websites/ books used in their project implementation]

This write-up will expect students to prepare Chapter no 7 in the format given below

Chapter 7

Conclusion and future work

This chapter summarizes the key findings and outcomes of the implemented prototype/application, highlighting its effectiveness in addressing the defined problem. The successful implementation demonstrates the feasibility of the proposed approach, validating its functionality through testing and evaluation. However, certain limitations were identified, which present opportunities for further enhancements. Future work can focus on improving system performance, scalability, and integrating advanced features.

1. Conclusion

- The implemented AI Image Generator successfully integrates a deep learning model to generate realistic images from textual descriptions, demonstrating the potential of generative AI technologies.
- The application provides an intuitive and user-friendly interface that allows users to input text prompts and receive corresponding AI-generated images efficiently.
- It uses a modern tech stack (e.g., Flask backend, HTML/CSS/JavaScript frontend) ensuring scalability and maintainability of the system.
- The system design follows modular principles, which enhances code readability, debugging, and future expansion.
- The generator model exhibits satisfactory results in producing visually coherent and relevant images, validating the feasibility of the approach.
- The testing process confirmed that the core functionality works reliably for a variety of input prompts, with minimal latency.
- The system effectively addresses the problem of creating visuals without requiring artistic skills, making AI-based image generation accessible to non-technical users.
- However, certain limitations such as image quality consistency, model generalization for abstract inputs, and lack of customization options were noted.
- Overall, the project has laid a strong foundation for a practical AI-based image generation tool with room for refinement and advanced capabilities.

2. Future Scope / Work

- **Model Enhancement**: Integrate more advanced or fine-tuned models like Stable Diffusion or DALL·E 2 for improved image realism, speed, and accuracy.
- **Custom Style Support**: Enable users to select image styles (e.g., cartoon, realistic, anime) or upload reference styles for guided generation.
- **User Authentication & History**: Add user login functionality with a dashboard to save and manage previously generated images.
- **Batch Generation**: Allow batch image generation for multiple prompts simultaneously or generating variations of a single prompt.
- **Real-Time Preview**: Include a live preview mechanism for how the prompt will be interpreted before full image generation.
- **Mobile Compatibility**: Optimize the frontend for mobile and tablet users to expand accessibility.
- **Cloud Integration**: Host the model on cloud services (like AWS or GCP) for faster performance and reduced local resource dependency.
- **Ethical Filtering**: Implement content moderation and filters to prevent misuse or generation of inappropriate content.
- **Multilingual Support**: Expand prompt input to support multiple languages to reach a broader audience.
- **Community & Sharing**: Build features that let users share their generated images within a community platform or on social media directly.