

Assignment(This Round is Most important & Selection Round) Title:
Prototype: Convert Photo or Text to a Simple 3D Model

Assignment Description:

You are tasked to create a simple prototype that accepts either:

A photo (single object like a chair, car, or toy)

Or a short text prompt (like "A small toy car")

and generates a basic 3D model (.obj or .stl) that can be loaded in a 3D viewer or printed.

You should demonstrate:

Understanding of image preprocessing (for photo input)

Use of AI or ML libraries for 3D generation (open source models allowed)

Code quality and ability to work independently

Clear explanation of your approach

Requirements:

1. Input:

Either an image (.jpg/.png) or text prompt (plain text)

2. Processing:

For photo input: extract the object clearly (background removal optional but preferred)

For text input: use any open-source text-to-3D model generation method

3. Output:

A downloadable .stl or .obj file

A simple visualization (could be a basic 3D plot using matplotlib or pyrender)

4. Code and Documentation:

Code must be Python

Use virtualenv and document all dependencies in requirements.txt

Include a README.md with:

Steps to run

Libraries used

Your thought process in short

Note: After this assignment round, You will have only one interview round based on assignment submitted by you for 30 Minutes Only.

Hint: Use chatgpt for architecture and technical help but don't copy paste from there, So write your own code.