

Final Assignment

1. The *Aalto vase* shown in Fig. 28 is often considered to be the flagship of Finnish design. It was created by Alvar Aalto and his wife Aino in 1936. The vase is sometimes referred to as the *Savoy vase* because of its appearance in the historical Savoy restaurant in Helsinki that opened in 1937.

The first glass vase was manufactured by Aalto using a wooden mould and consequently the surface had more textures than the modern smooth versions. Currently, the vase is being manufactured industrially in a variety of colours, sizes and materials.



Figure 28: Aalto vase and its profile.

Construct a NURBS surface model of the vase. Model first the profile of the vase as a NURBS (or B-spline) curve $\mathcal{B}(t)$ and then construct an extruded surface by sweeping in the direction determined by a suitable unit vector \mathbf{n} , through some distance d . A more refined model might be obtained by forming a ruled surface from the two curves $\mathcal{B}_{\text{bottom}}(t)$ and $\mathcal{B}_{\text{top}}(t)$ representing the profile at the bottom and the top of the vase. The vase can also be thickened by using an offset surface at a suitable distance δ .