This is where I learnt everything about product design in detail - from where fillets are necessary and utilization of ribs at appropriate places to getting an intuition for weight saving cutouts and techniques. I developed and refined 3D CAD models using CATIA V5 and SolidWorks.

The most intricate and detailed Product Design and 3D modeling work I did here involved the design of fuselage of a UAV through advanced surfacing, part design and assembly. The design involved compact packaging of electronics such as battery, payload, power distribution boards, cabling and various other electronics. Other tasks include:

* Handled complicated assemblies with 40+ components and developed a strong, systematic approach to Design for Manufacturing and Assembly (DFMA).
* Developed several mechanisms such as battery locking, landing gear detachment, wing detachment, payload lock.
* Produced 4 different concepts from scratch and took them to preliminary design stage in 2 months which involved an innovative design of a cage/protective structure for a quadcopter UAV.
* Performed FEA for components under the guidance of the Structural team using Ansys Structural to ensure the designs satisfied Factor of Safety requirements set.
* Designed multiple laser-cut jigs for UAV assembly during prototyping.

Rapid Prototyping: Extensively worked with SLA, FDM and SLS 3D printers like Formlabs Form 3, Ultimaker S5 and others. Familiar with slicing for 3D printing, design for laser cutting and hands on experience with post-processing 3D printed parts.

DSCE-M - FORMULA STUDENT

* Assisted in designing jigs for chassis welding.