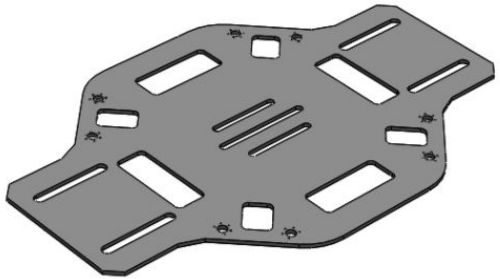
3D Modeling with NX 12

Assembly Modeling

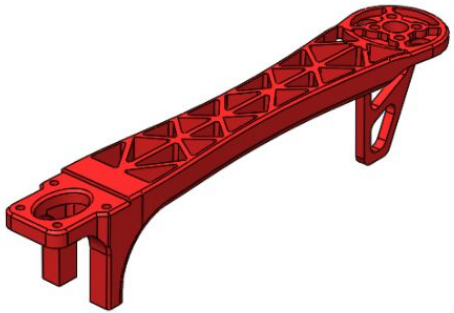
Wenjin Tao

Part Modeling

Base top



Base bottom

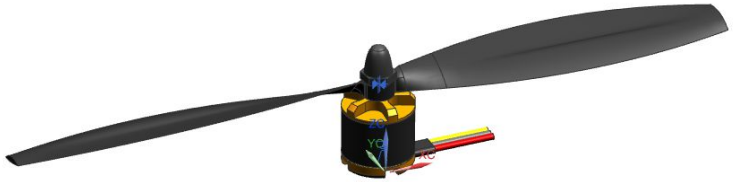


Arm

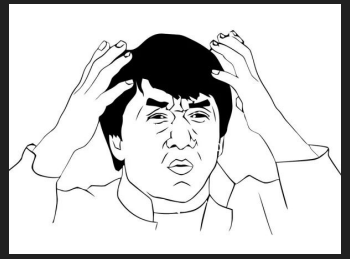
Leg

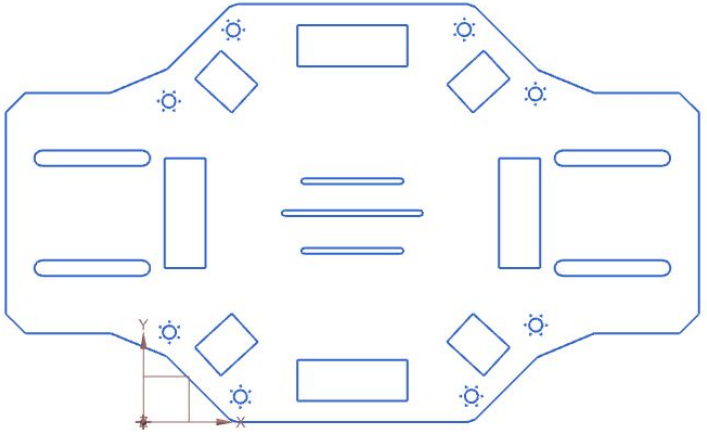
Now you should be able to model these parts.
Practice makes perfect.

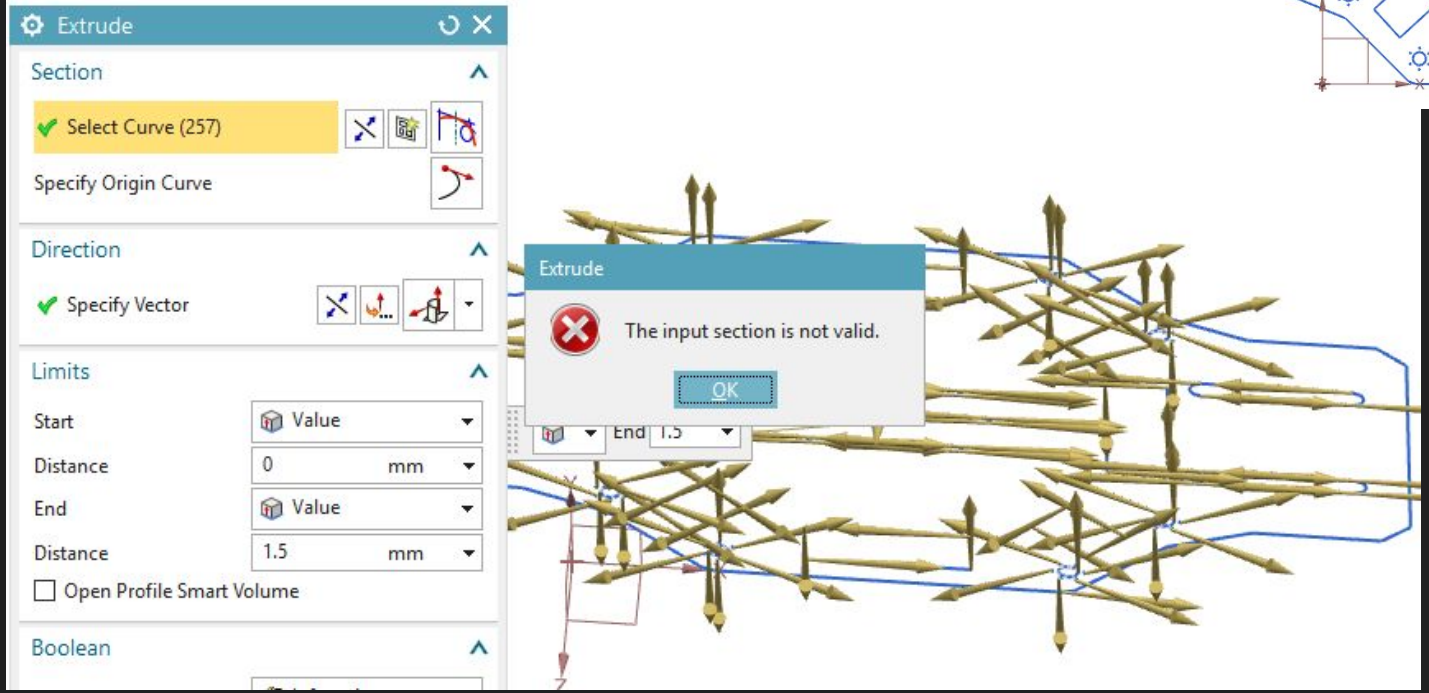
Motor & Propeller



Extrusion Error

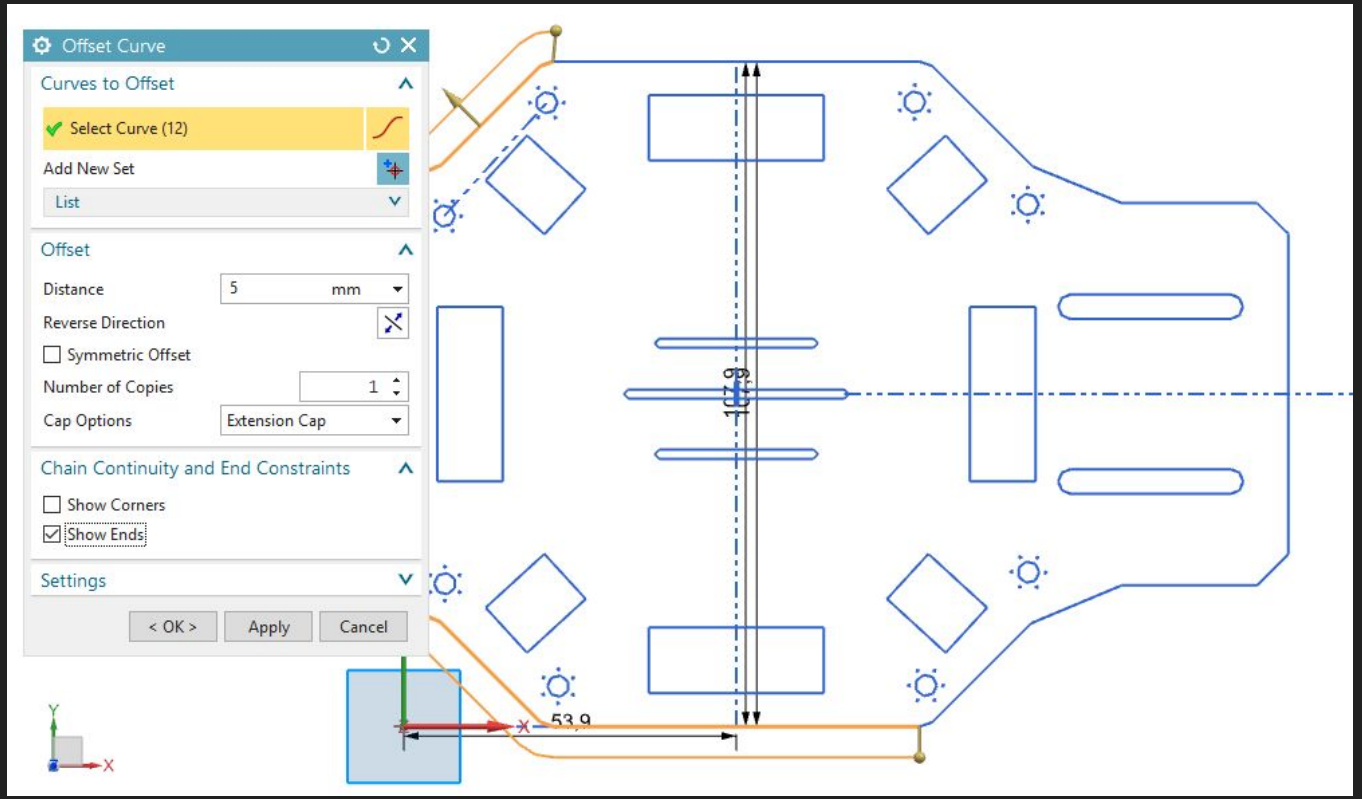




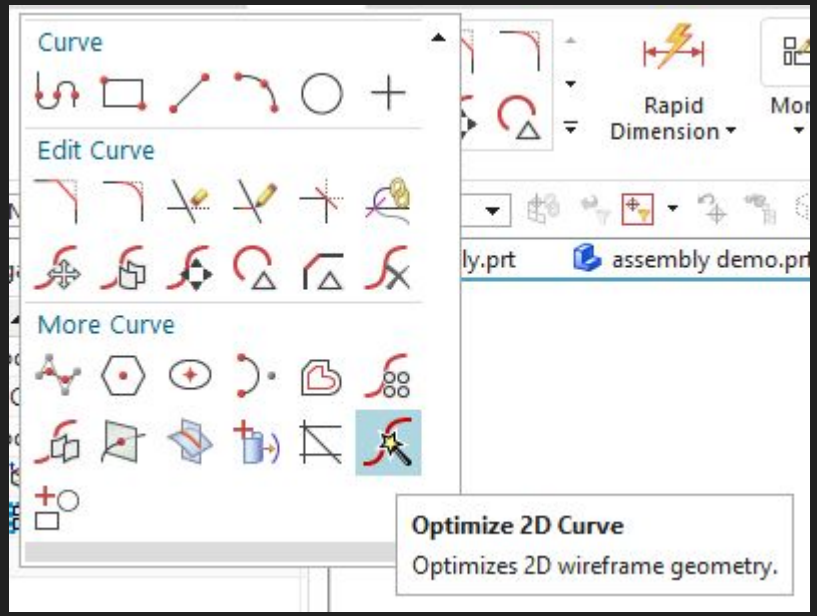


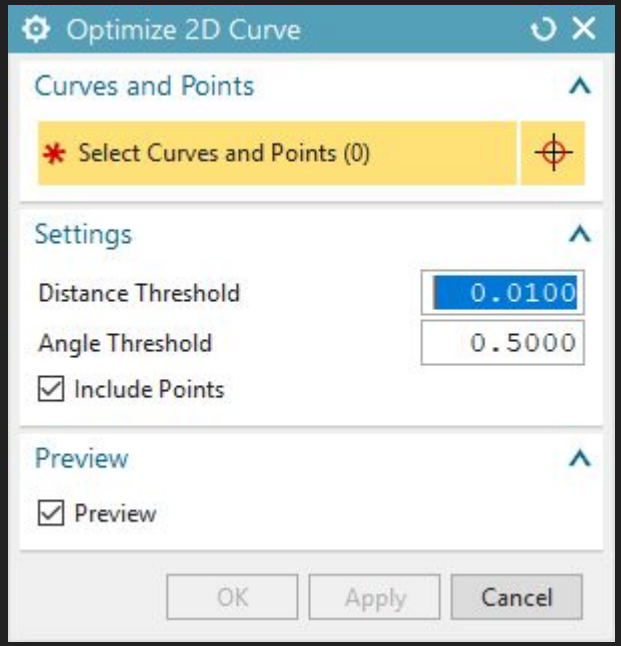
This is a question from a student, which might be a common issue for beginners.
You spend a lot of time on a sketch, but finally you cannot extrude it to a solid part and don't know why.
You may start blaming the software.

Use “Offset Curve” to Spot the Tiny Gap



Use “Optimize 2D Curve” to Cure a Sketch





https://vimeo.com/289909609

Keep the Sketch Complexity Under Your Control

If you are comfortable with super complex sketches, just do it. Otherwise, keep a sketch simple will make debug easier and the model maintainable.

Project 1 Task 2

Model the the other 2 parts and assemble the drone, then submit the whole 4 part files (.prt) and the assembly file (.prt) in a .zip file.

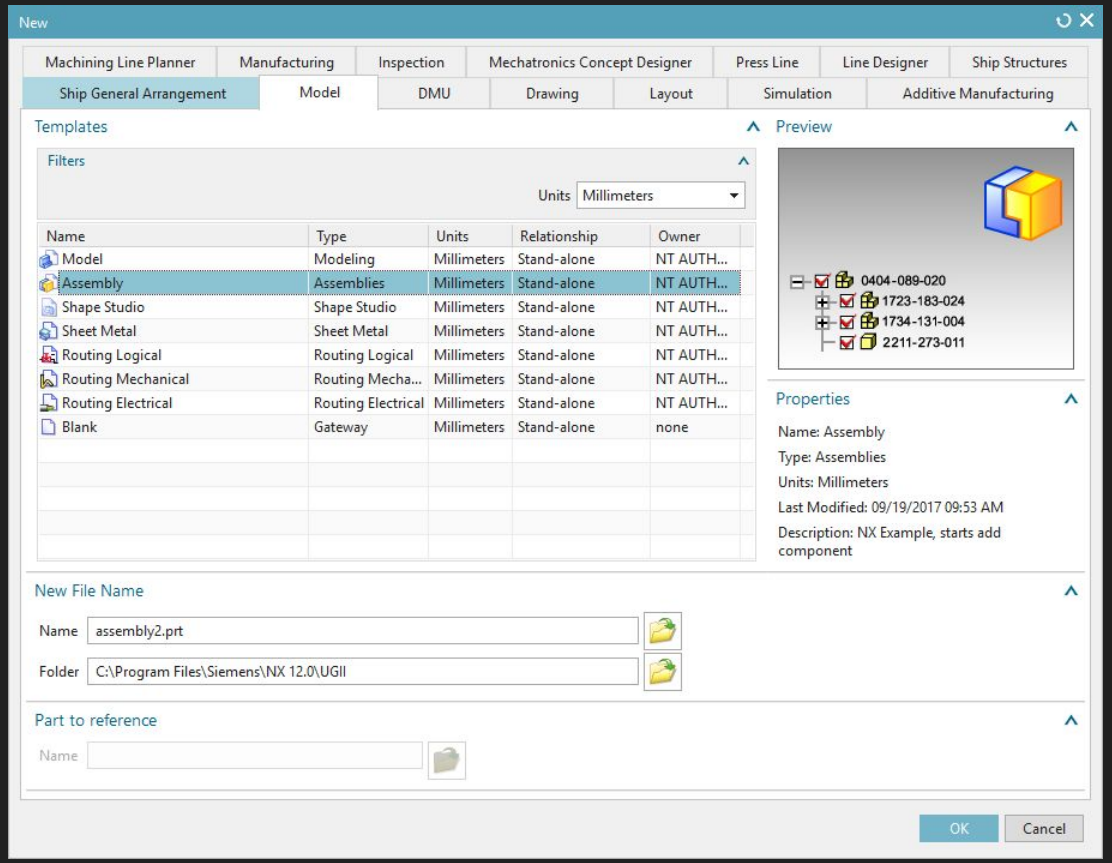
Due: Sep. 21

Note:

- **<u>A finished project will get a full credit.</u>**
- **<u>Revise and resubmit for full credit.</u>**

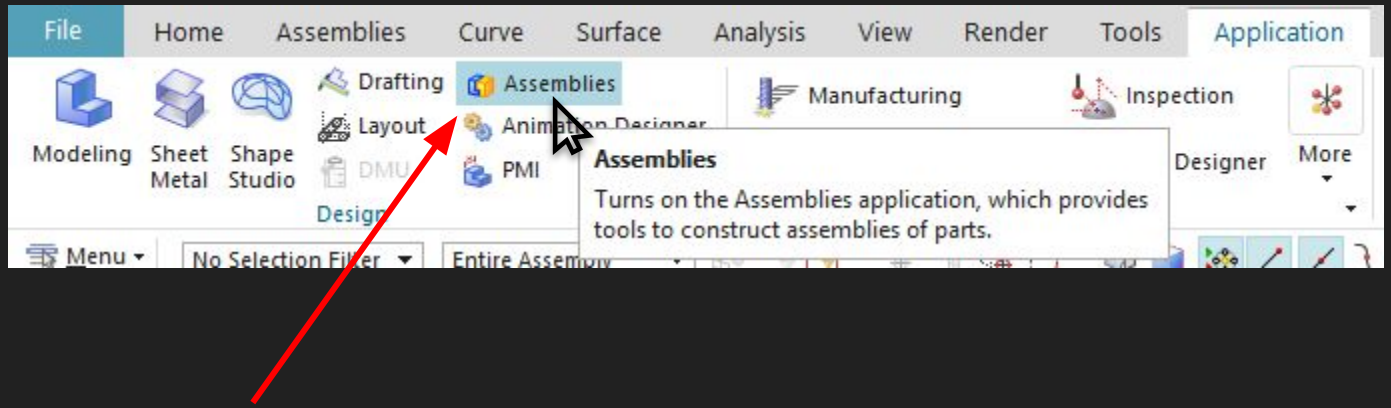
Assembly

File -> New -> Assembly



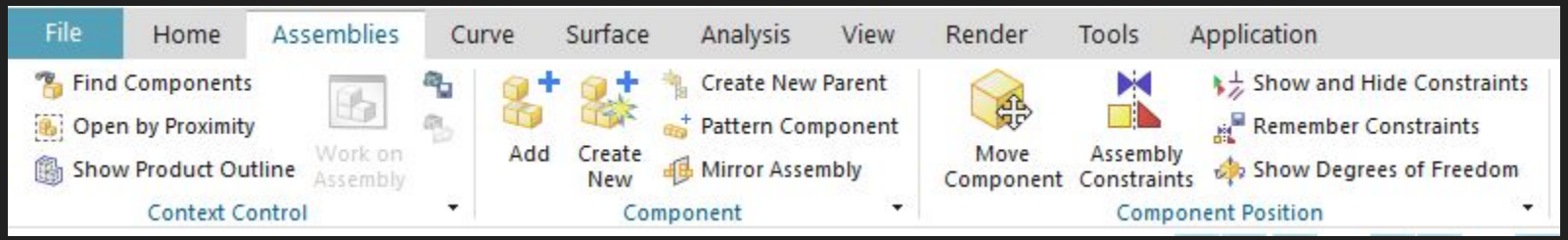
Assembly

Or turn it on from “Application”.



Assembly

- Assembly **Components**
- Assembly **Constraints**



Add

Adds components to the assembly by selecting loaded parts or parts from disk.

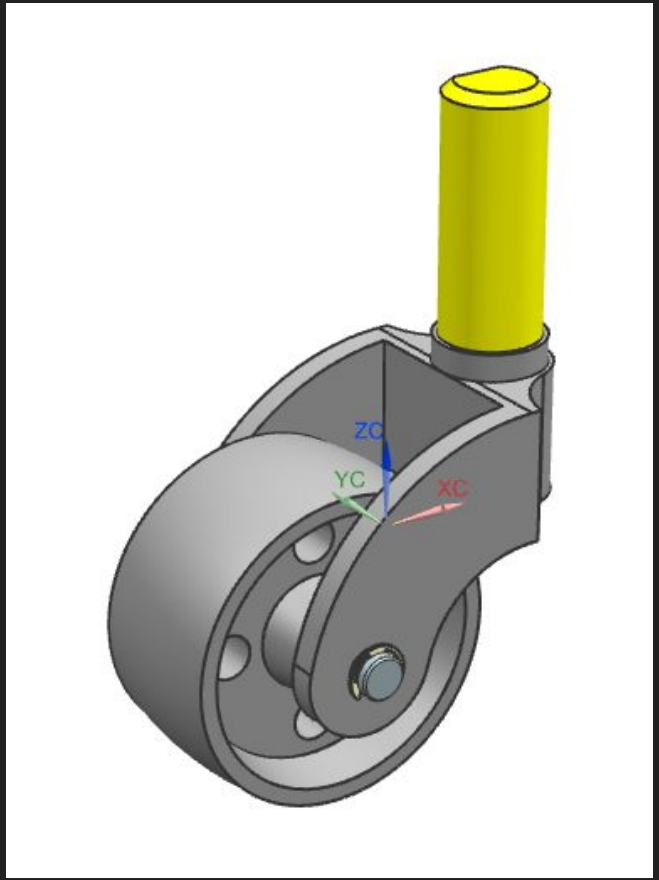
Assembly Constraints

Positions components in relation to other components in the assembly by specifying constraint relationships.

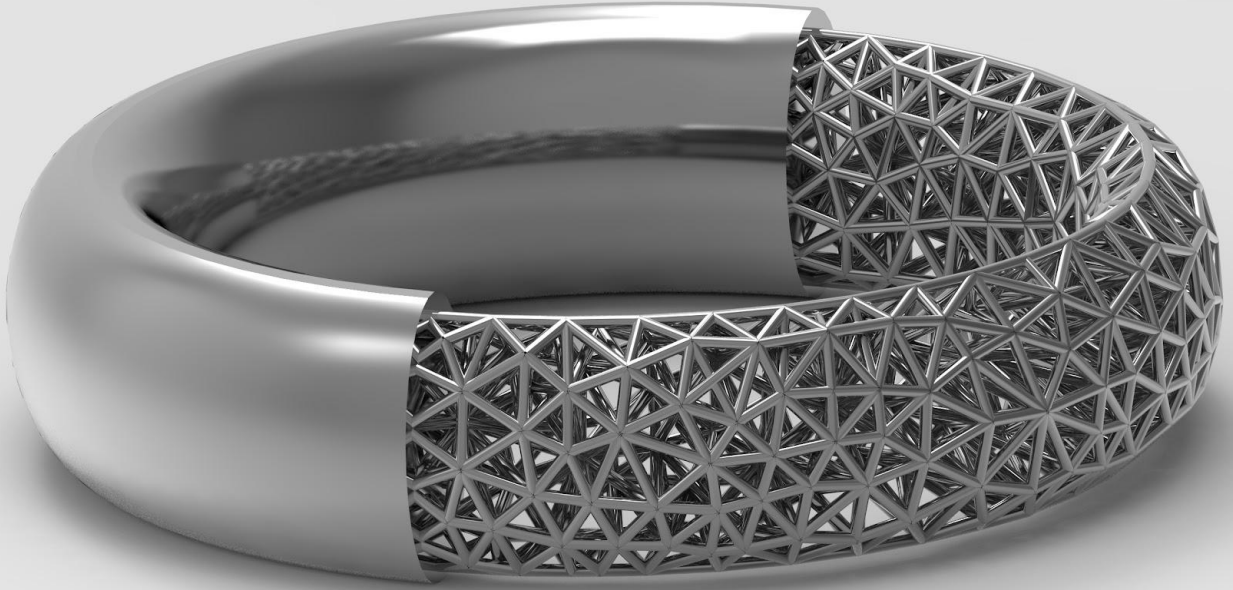
Organize components using proper constraints.

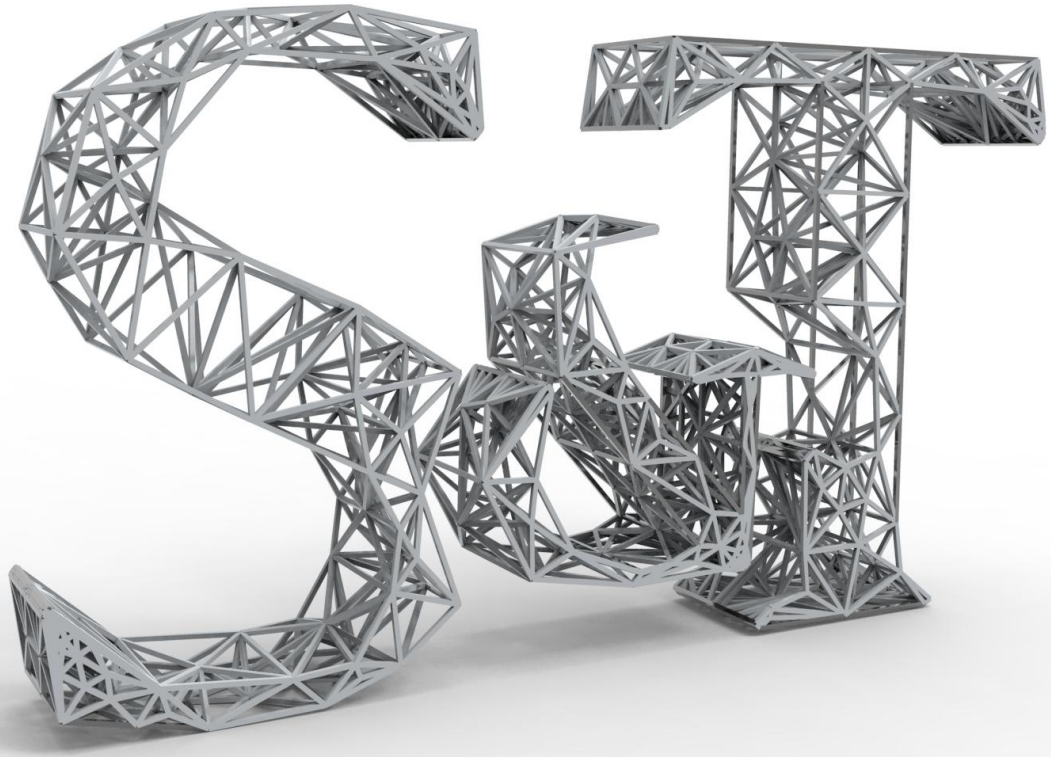
Demo

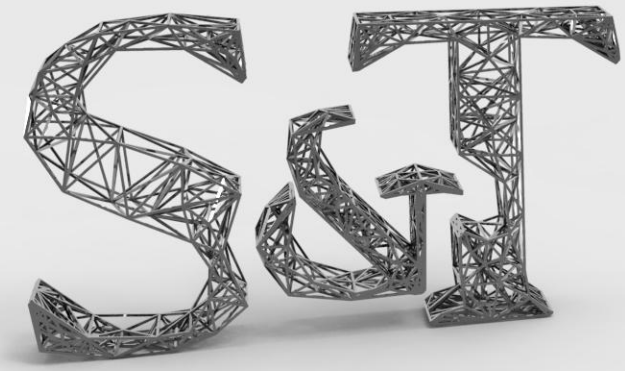
Assembly modeling of a caster using NX 12.



How to Create Nice Visualizations






S&T

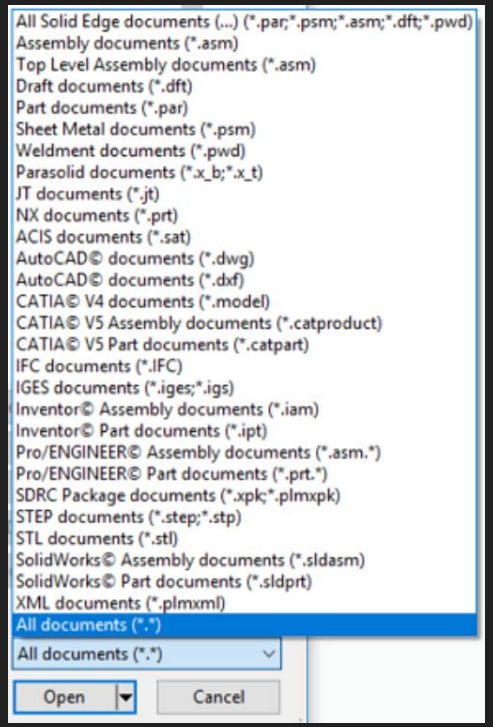
2 Minute Modeling

Cheatsheet

Model in NX 12; Save as a **.prt** file

Import to Solid Edge; Save as a **KeyShot .bip** file

Render in KeyShot



Solid Edge supported format

Solid Edge Student Edition

This free download:

- Is available to any active student
- Is intended for academic course work
- Has a license that will not expire

https://www.plm.automation.siemens.com/plmapp/education/solid-edge/en_us/free-software/student

Key Shot

KeyShot is everything you need to create amazing visuals fast. The real-time 3D rendering workflow displays results instantly and reduces the time it takes to create realistic product shots. From scientifically accurate material and environment presets to advanced material editing and animation, creating interactive product visuals or sales and marketing imagery has never been easier.

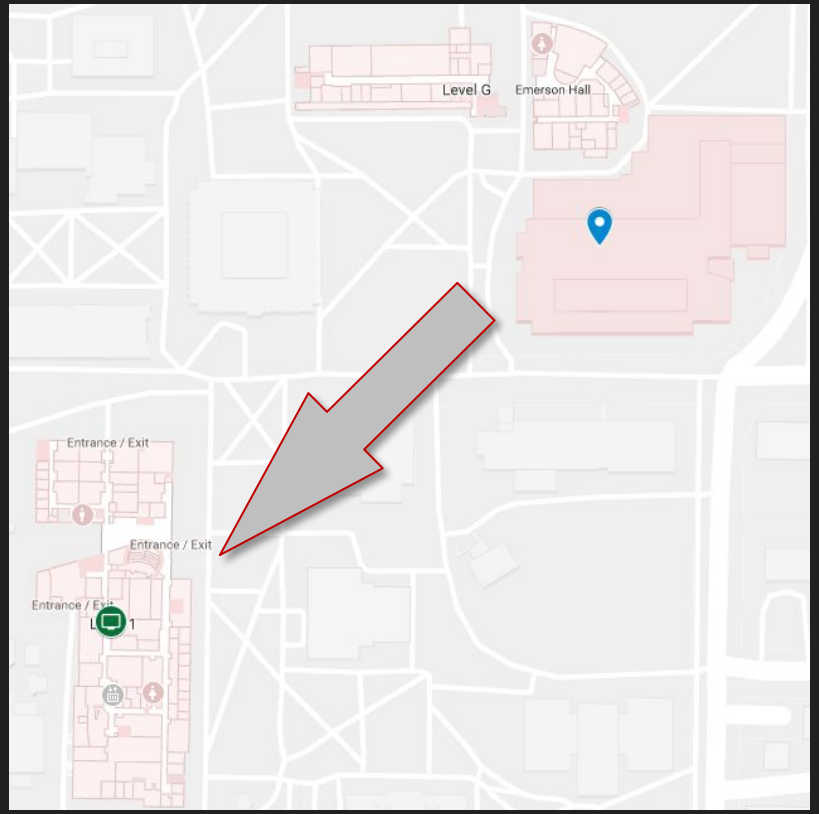
https://www.keyshot.com/

Self Practice

Due: Sep. 21

Project 1 Task 2: https://me5763.github.io/lab/pages/project-1.html

For on-campus students: Toomey Hall 200. See you there!



Toomey Hall 200

CLC
COMPUTER LEARNING CENTER

For Distance Students

There are CLC machines available for you to access software remotely. The setup instructions are provided on Canvas.

Here's how you can speed up your NX 12 on the virtual machine: https://me5763.github.io/lab/pages/speed-up-nx.html