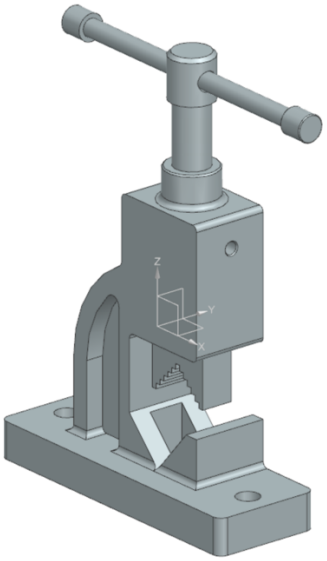
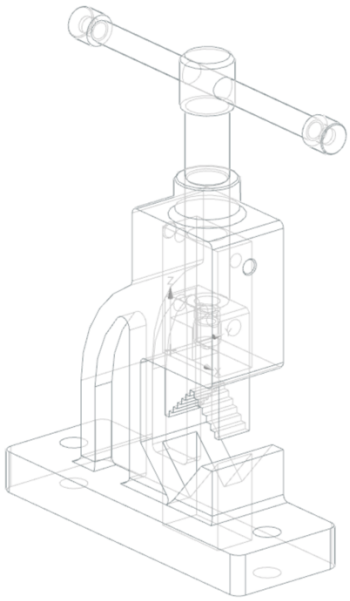
Hi there!

My name is Ian, and I want to thank you for looking at my portfolio. I have been working on some exciting projects—I am eager to show you what I am capable of. Below is a list of my recent projects and a brief description.

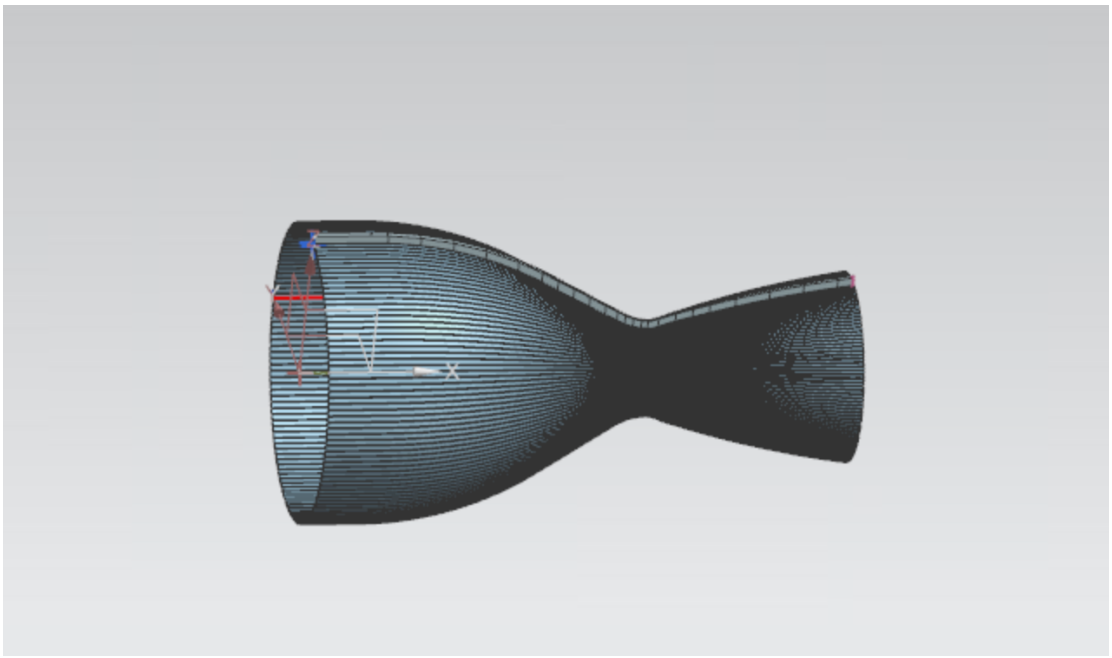
1. CAD

   I have devoted an hour a day for the past six weeks to teaching myself how to use Siemens NX. I have been working with a textbook that a colleague lent me, called *Siemens NX 12.0 for Designers, 11th Edition* by Sham Tickoo. I have recently learned how to create assemblies of components. Below is a picture of a pipe vice which I created during a tutorial in the book.





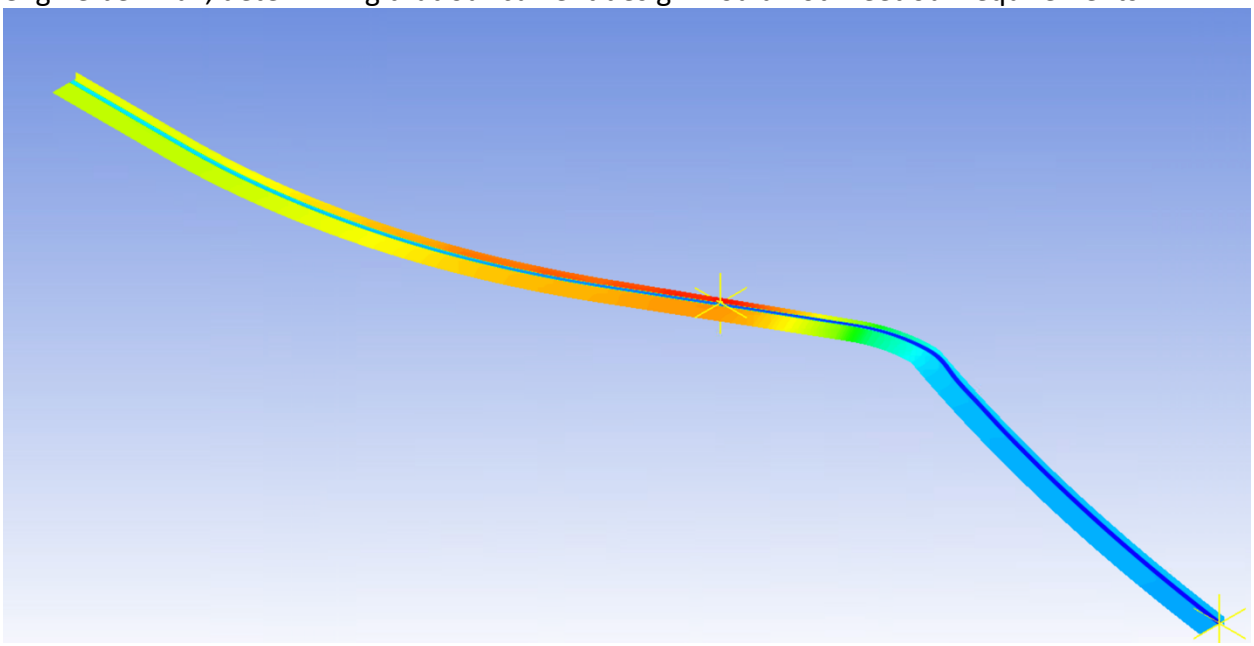
   I have been getting increasingly comfortable with NX. I am now able to work with the model for the combustion chamber cooling system my team and I are currently designing with THRUST—a student-led high powered rocketry organization here at the University of Illinois which I belong to.



Model of the fluid negative of the Tacoma cooling system

2. ANSYS

   To simulate the cooling process within our engine accurately, we have decided to use finite element analysis. Hence, I was tasked with learning how to use ANSYS Fluent and Mesher. I have successfully used ANSYS to model the thermal environment in our engine bell wall, determining that our current design would not meet our requirements.



Temperature of Engine Wall Cross-Section

3. C/C++
   During the stay-at-home order in my state, I learned C and C++. I enrolled in an online course (through Coursera) to learn C, called “C for Everyone.” Once I finished that course, I moved on to C++, enrolling in a course titled “C++ for C Programmers.” This course was challenging, culminating with a project in which I had to implement a random graph generation algorithm, Dijkstra’s algorithm, Prim’s algorithm, and Kruskal’s algorithm. During this project, I learned the principles of Object-Oriented programming, code readability, and memory management. To view the source code of this project, please visit https://github.com/iamianbrown/Graph-Project.