Personal Solidworks Project - Optimus Prime

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Figure 1: Rendered Front View
Figure 2: Rendered Side View
Figure 3: Rendered Isometric View
Figure 4: Optimus Prime Drawing
Figure 5: ‘Inspiration’ The G1 Optimus Prime Head with Speaker[http://tfsource.com/products/view/product_id/825/]
**Personal Solidworks Project Write Up**

As a child I always took an interest in robots. My favorite television show growing up was *The Transformers* because I dreamed of the ability to make a cool robot like the ones I saw on my TV. Engineering was my next step to being able to design one so for my personal solidworks project I decided to create the head of who I believe is the king of all robots, Optimus Prime.

Most of the details featured in my Solidworks project utilized lofts or extrudes. The helmet was a loft and the attachments on the sides also utilized the same tool. To add texture, I learned to use extrudes with angles. This is featured on the mask which utilized a 15 degree angle while I extruded it as it would be too complicated to get all of the edges and features in Optimus Prime’s face. Additional features were also utilized. A fillet was used to create the curvature of the headpiece. I attempted other features in my draft such as 3d sketching although these did not make it into the final design as my personal comfort level with lofts and extrudes was much higher.

The hardest part of the project was most definitely figuring out how to build the helmet. I originally attempted a 3d sketch of the helmet and ran into issues when extruding the figure. To fix this, I simply broke the helmet into separate parts and attacked each piece separately for an assembly. The helmet is made out of basic lofts or extrudes that were then put together in assembly.

I think the most important thing I learned from the Solidworks portion of EDSGN is just having an introduction to CAD software. Despite my initial struggle with Solidworks, I’m very proud of the progress I was able to make. My skill of dimensional analysis also went up as I had to freestyle the dimensions.