



# Bringing Ideas To Life With 3D Printing

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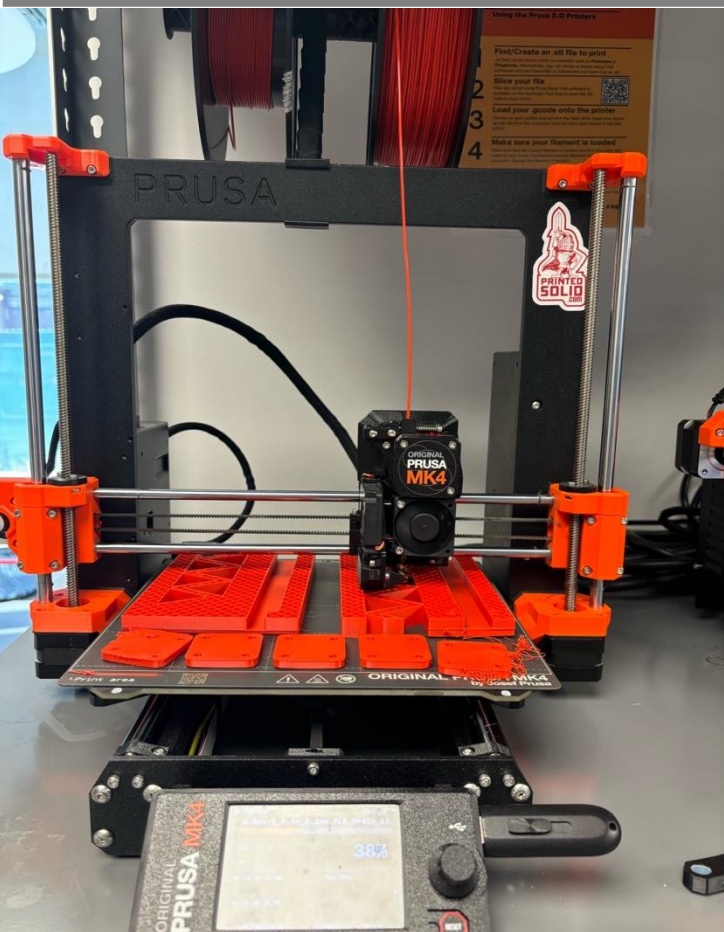


We don't just print serious things either! Here are some fun display parts I got to print on our SLS printer(, the Fuse!



This testudo is a scanned replica of the real testudo statue printed on the SLS Fuse powder bed!

The University of Maryland is a massive school which has made a name for itself through research. However, lots of research hinges on being able to develop a physical product. Without a functioning maker space, researchers and students are unable to develop physical prototypes.

From selective laser sintering, to stereolithography, to fused deposition modelling. I was able to learn and utilize various 3d printing technologies to provide customers with a physical prototype/product.

FDM (Fused Deposition Modelling)	SLA (Stereolithography )	SLS (Selective Laser Sintering)
Heated plastic is extruded from a nozzle to form layers as if icing a cake	A UV laser is emitted on a resin vat to cure and harder an entire layer of resin at a time, eventually creating a solid part	Loose Nylon powder in a build chamber is sintered by a laser and excavated to reveal a completed part
		

At Terrapin Works, I learned the fundamentals of both additive and subtractive manufacturing. I learned how to optimize designs for the manufacturing process as well as the internal workings of various 3d printing technologies.

Impact:  
I have been able to assist hundreds of students and researchers in completing their projects. The impact of our makerspace is arguably the widest on campus, as we aid in the prototyping and development of products and research prototypes used across all departments.



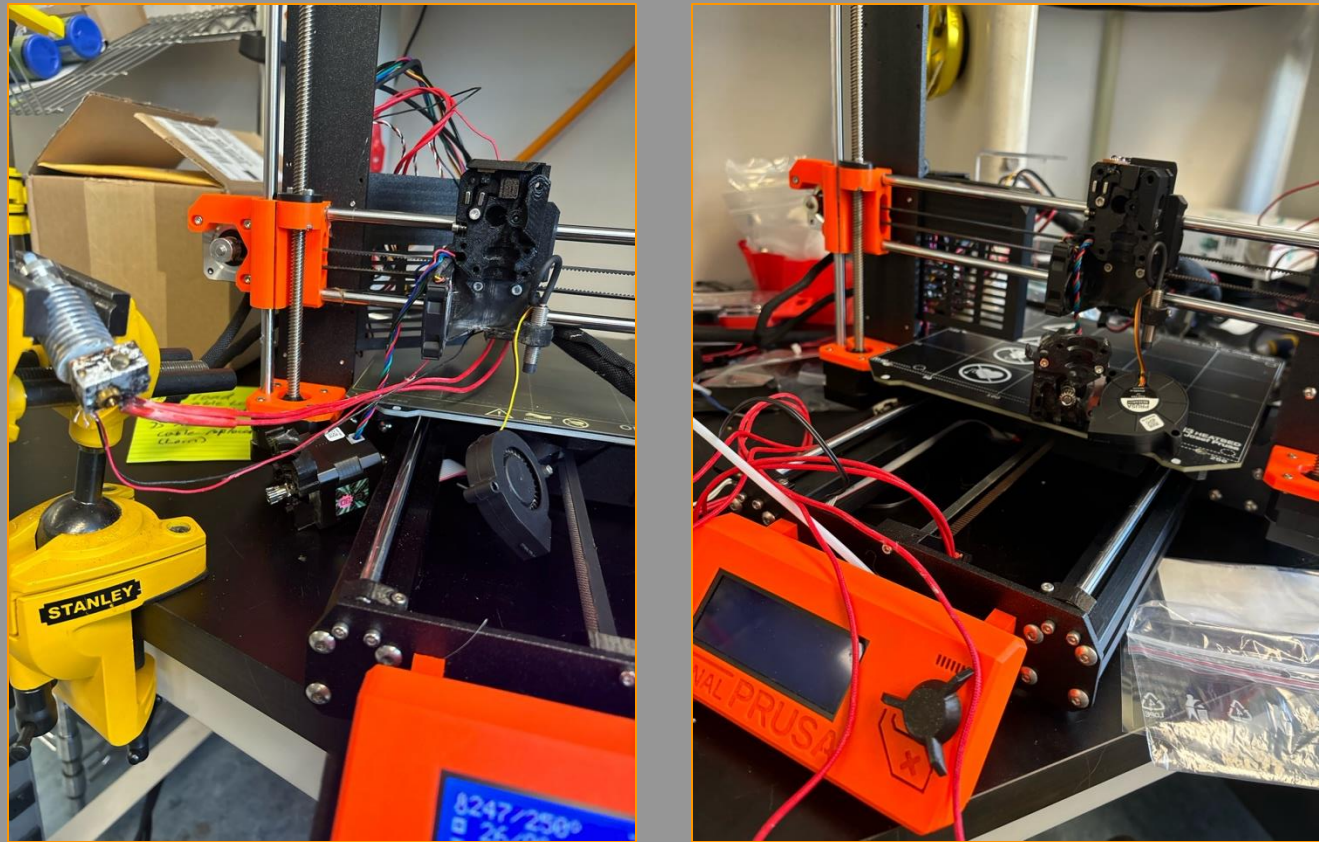
Some Testudo croc jibbits I made in my free time!

Looking Forwards:  
I look forward to working at Terrapin Works for the remainder of my stay here at College Park. I have recently been promoted to the role of Machine Specialist, which sees me focusing my efforts on our SLS powder bed(Fuse 1).

Motivation/Key Takeaways:  
My initial motivation coming in was to make some money while getting some experience in the manufacturing field. Coming out, I am still excited to pursue this field and have a better understanding of the true and boundless potential offered by 3d printing.

Acknowledgments:  
I would like to give a special thanks to my site supervisor, Evan Hutzell, for granting me the opportunity to work as a member of the TW team!

Site Info:  
Terrapin Works  
8278 Paint Branch Drive  
Evan Hutzell



I also had the opportunity to get my hands dirty and conduct repair our FDM printers!

