Brief CV

Name	Shajahan Bin Maidin	中文名		
Gender	Male	**Title** (Pro./Dr.)	Associate Prof.	
Position （President…）	Senior Lecturer	**Country/ Region**	Malaysia	
University/ Department	Universiti Teknikal Malaysia Melaka			
Personal Website	https://portal.utem.edu.my/oas/directory/stafsearch.asp?mysearch=			
Research Area	Additive Manufacturing, Sustainable Product Design and Manufacture			

Brief introduction of your research experience:

Over the last 5 years, I have been active in research concerning additive manufacturing. I have gained in depth knowledge of the problem with related to 3D printing parts and products. In addition, I have also supervised various undergraduate and post graduate students project related to additive manufacturing.

There have been various studies related to post treatment of FDM parts to improve the surface finish. In terms of post processing, some common methods include manually trimming the support structures, sanding, tumbling, barrel finishing, machining, sand-blasting, polishing, heat treating and applying coating to achieve the desired surface qualities or properties. If the volume and the number parts are large, then the use of automated post-processing methods should be considered. To overcome this I have design and developed and integrate ultrasonic technology into a desktop FDM system. The result proved that the ultrasonic frequency is feasible to be applied into a desktop FDM printer during the printing process and was able to improve the surface finish of the 3D printed parts.

To overcome the problem associated poor mechanical properties particularly the fracture toughness of the 3D printed parts I have investigated a method to improve the mechanical property such fracture toughness of 3D printed parts particularly for FDM. It was known that FDM possesses poor mechanical properties especially produced in Z-axis where the layer bonding was at its weakest strength. I have design and developed a vacuum system for a desktop FDM printer. Literature review has found that there is a gap in knowledge where vacuum system has not been applied to a FDM 3D printer. Literature review also shows that vacuum system is non-thermal, non-chemical and does not require the work piece to be electrically conducted. As a result, there are no adverse integrity effects yet producing compressive residual stresses on the work piece that consequentially promotes increased fatigue strength.

*******All the columns need to be filled in.**