



## CURRICULUM VITÆ

### EUGENE KHENG

**"Dr. Kheng is a distinguished mechanical engineer with extensive knowledge of solid mechanics and machine design."**

PhD Mechanical Engineering

MSE Mechanical Engineering

BSE Mechanical and Aerospace Engineering

## 1. BIOGRAPHY

Dr. Kheng is a distinguished mechanical engineer with extensive knowledge of solid mechanics and machine design. He is currently a postdoctoral research fellow at the University of Michigan, where he conducts cutting-edge research on the fatigue behavior of twill carbon fiber composites. He devised a new method to accurately place notches within 100 microns of the intended position with respect to carbon fiber mesostructures. He utilizes Finite Element Analysis of tension and fatigue tests with Abaqus to conduct his research and analyze the data. In addition, he repaired an old MTS810, replacing the existing control scheme with a Labview solution to turn it into a fatigue machine.

Dr. Kheng is also the Founder and director of overall operations at Brim Printers Pte Ltd, a startup that specializes in designing and producing large-format, ultra-fast 3D printers based on PCT/SG2016/050351. His work on this project involved completing a USD230,000 Resin Development Grant Project in conjunction with Nanyang Technological University to produce a photosensitive resin with low distortion. He has a passion for product development, additive manufacturing, electro-mechanical integration, and programmable logic controllers.

Prior to his current postdoctoral research, Dr. Kheng was a Postdoctoral Research Fellow at the Singapore Institute of Manufacturing Technology. While there, he was a major contributor to the development of multiple 3D printer technologies and worked on the 3D Additive Manufacturing Work Package to print an automotive dashboard. He was also the primary contributor to the Singapore patent PCT/SG2016/050351 for ultrafast 3D printing.

As a Graduate Student Research Assistant at the University of Michigan, Dr. Kheng received US Navy funds to research transparent armor systems. He focused on reducing the weight of bullet/shrapnel proof observation windows on ships. Dr. Kheng also designed and assembled a high-speed impact testing facility and prototyped a nanocomposite production facility. His work on the latter increased the production speed of Layer-by-Layer nanocomposite films by 72x.

Dr. Kheng's skillset includes a vast array of knowledge in areas such as solid mechanics, fracture mechanics, mechanical testing systems, polymer and composites characterization, machine design and development, electromechanical integration, computer-aided design, and non-linear finite element analysis. He received his PhD and master's degrees in mechanical engineering from the University of Michigan, as well as a BSE in Mechanical and Aerospace Engineering.

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