



DESIGN AND ANALYSIS OF MINI EXTRUSION MACHINE FOR 3D  
PRINTING FILAMENT

AHMAD AKMAL BIN MUSTAFA  
(2016666014)

A thesis submitted in partial fulfilment of the requirement for the award of Bachelor  
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Faculty of Mechanical Engineering  
Universiti Teknologi MARA (UiTM)

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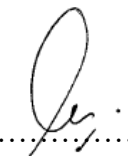
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**Ahmad Akmal Bin Mustafa**

UiTM No: 2016666014

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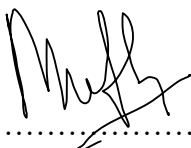
Signed :  .....

Date : 06/08/2020

Supervisor

**Ir. Normariah Binti Che Maideen**

Faculty of Mechanical Engineering  
University Teknologi MARA (UiTM)  
13500 Permatang Pauh  
Pulau Pinang

Signed :  .....

Date : 07/08/2020

Co-Supervisor

**Pn. Nurul Muthmainnah Binti Mohd Noor**

Faculty of Mechanical Engineering  
University Teknologi MARA (UiTM)  
13500 Permatang Pauh  
Pulau Pinang

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## **ABSTRACT**

Additive manufacturing based on 3d printing is widely used in the current market. Even complex products can be manufactured using 3d printing. As the demand for 3d printing keep on increasing, the demand for the filament are also increasing. Advantages of using 3d printing are it can save material by recycling it, making prototype easily and does not need mould. The purpose of developing this machine is to support the additive manufacturing industry. There are a lot of ways to develop a mini extrusion machine from previous research. However, there are no specific size, components and material needed to build the machine. So, this project is intended to research and design a filament extrusion machine with optimum method and provide reason on why the size, components and materials are choose. Based on the research made, a detail design for the filament extrusion machine was generated. Besides, to strengthen the choice of design made, an analysis on the critical components of mini extrusion machine were conducted.